

AIR CONDITIONING & REFRIGERATION

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NEWS

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Inside Dope

By GEORGE
F. TAUBENECK



Learn to live and laugh —
thus delay your epitaph

Stories of the Week

Air Conditioning Cardiacs
Auto Air Conditioning
So You Think You Got
Troubles Dept.
Air Conditioning Next
Sears Branches Out
Thought for Consumers
Goods Makers
Interim Notes
Never Underestimate
Women

Stories of the Week

"My wife tells me I am a model husband."

"Did you ever look up the definition," snorted a pal, "of a model?"

"Er, no."

"A model, my dear friend, is a small imitation of the real thing."

From Ireland, Patrick emigrated to New York. Within two days he obtained a good job with a wrecking concern. Pat wrote home:

"This is a great country. They're paying me \$12 a day to tear down a Protestant church."

Young man asked Mozart advice on how to compose a symphony.

"At your tender age," interposed Mozart, "perhaps you should begin with a ballad or tone poem."

"Sir, you wrote a symphony when you were only eleven."

"Ah, yes, but I didn't have to ask how."

Air Conditioning Cardiacs

According to Dr. George Burch of the Tulane University School of Medicine, air conditioning will remove summer health stresses caused by heat and humidity.

"Air conditioning in the home, office, and car," he is quoted, "will give the heart the rest it needs."

The human heart, incidentally, beats at an average of 70 times a minute, 4,200 times an hour, 100,800 times a day, 3,024,000 times a month, 36,288,000 times per year, and a total of 2,540,160,000 times in an average lifetime of 70 years.

Auto Air Conditioning

Increasing acceptance of automobile air conditioning in all auto price ranges has led a top Detroit automobile executive to believe that, by 1961, one of

Detroit UA Sets Up Refrigeration, Cooling Division

DETROIT — Establishment of a separate refrigeration and air conditioning division in Local 636 and issuance of building trades books or cards to journeymen in this division are outstanding features of a new labor agreement signed this month by the Refrigeration and Air Conditioning Contractors Association of Detroit and Pipefitters' Local 636 of the United Association.

The contract states: "All members of the union who meet the definitions of a commercial refrigeration journeyman or a domestic refrigeration journeyman . . . shall be members of the refrigeration and air conditioning division of the union and are to have building trades books or cards marked 'Refrigeration and Air Conditioning Division.'"

The bearer of such book or (Continued on Page 14, Col. 1)

25 Room Unit Mfrs. Publish B.t.u.h. Ratings

WASHINGTON, D. C. — Twenty-five manufacturers of room air conditioners, representing about 90% of U. S. production of such units, have published the capacity ratings of all their 1957 models in terms of B.t.u. per hour, it was announced last week by Geo. S. Jones, Jr., managing director of the Air-Conditioning & Refrigeration Institute.

Two companies' names have been added to the list of manufacturers participating in the B.t.u.-rating program, initiated this year by the Room Air-Conditioner Section of ARI, since it was published by ARI in May, following the institute's annual meeting at Hot Springs, Va. They are Fedders-Quigan Corp., Maspeth, L. I., and Olympic Radio & Television, Long Island City, N. Y.

Most of the makers have published the ratings in the special (Concluded on Back Page, Col. 1)

Cooling Off: Feud, Freeholders, Fuel Savers

Now why would he do that? A thief in Middletown, Conn. hauled away an air conditioner shell and left the cooling unit behind!

Some times it doesn't pay for a municipal judge to feud with the city administration. Dearborn, Mich. Municipal Judge George T. Martin sweated out a recent heat wave while the courtroom's four air conditioners stood stacked against the wall, awaiting installation.

Judge Martin claimed he submitted a requisition for installation three weeks before. But

Heat Wave Peps Up Air Conditioner Sales, Both Set Records; More Hot Weather Seen

Weather Outlook 'Really Favorable'; East 'Much Above' Normal to Mid-July

WASHINGTON, D. C. — A really favorable outlook for air conditioning sales came up in the U. S. Weather Bureau's outlook for the 30-day period through to mid-July.

"The Weather Bureau's 30-day outlook for the period mid-June to mid-July calls for temperatures to average above seasonal normals over the eastern third of the nation with greatest departures in the Ohio Valley and Middle Atlantic States," says the official forecast. The weather in the past week has certainly indicated that the forecast held true to form during the start of the period indicated.

The weather map shows temperatures "much above" normal for the area of the Middle Atlantic States from the Virginia Capes to Maine, and ranging west through Ohio. "Above normal" temperatures are shown for the upper midwest (including Chicago) areas, and most of the southwest, and for the Pacific Coast area.

"Near normal" temperatures (which can range pretty hot for this time of the year) are shown for the central plains and down through part of Texas. The below normal temperatures forecast covers most of the Far West with the exception of the California coastal region.

N. Y. Distributor Sells 3,000 Room Units In Day

DETROIT — The first real heat wave of the season sailed eastward across the northern part of the nation last week, stirring up lagging air conditioner sales to new records in some metropolitan areas.

Record temperatures for this time of year also brought record sales to some dealers and distributors. One New York distributor reported 3,000 room air conditioners sold on Tuesday alone—a new high by nearly 30%.

Though the heat wave petered out by mid-week in the midwestern areas, it sustained about seven straight days of above 90° F. temperatures with high humidities in the east.

The U. S. Weather Bureau forecast for the mid-June to mid-July period (see adjoining columns) raises hopes that more hot days are ahead which should boost 1957 sales of air conditioning to new records.

(Continued on Page 42, Col. 1)

NARDA Study Shows 'Serious Threat' To Many Dealers

CHICAGO — "Appliance and television retailers established an all-time low in profits and an all-time high in costs in 1956," NARDA President Ken Stucky said in reporting the results of the 11th Annual NARDA Costs-of-Doing-Business Survey.

"These findings show a serious threat to the continuance of many needed dealers in this industry as well as most of the marginal ones."

Highlights of the study, compiled for the National Appliance & Radio-TV Dealers Association by Richard E. Snyder, Chicago economist-consultant, will appear in a future issue.

Commercial Section

Starting on page 32 of this issue is a special commercial refrigeration section consisting of eight pages of articles and pictures dealing with markets, products, and methods in this field.

One article reveals results of a survey on consumer attitudes about packaged produce (see page 32). In another, a store engineer gives his rule for sizing the meat department in a new market (see page 33).

On pages 34 and 35 is a report on an installation of 28 air-cooled condensing units in a supermarket. A story on the following two pages tells of "something a little different" a distributor has done with water-cooled equipment in two markets.

Ten pictures on page 38 show some of the refrigeration equipment displayed at the NARGUS show in Chicago, and on page 39 are details of new equipment in the restaurant and bar field.

BEHIND PAGE ONE . . .

Church Air Conditioning

Big Potential Seen as Churches Turn To Cooling (Installations Described)..... 10

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Solders, Fluxes

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Servicing Auto Air Conditioners

A.R.A. Models Lead Off New Series..... 40

(See box at bottom of column 5 for Special Commercial Section articles.)

Roy J. Resch, McQuay President, Dies

MINNEAPOLIS — Roy J. Resch, 61, president and board chairman of McQuay, Inc., died suddenly on Thursday, June 13, while on a business trip to New York. He had been in ill health following a heart attack in January, 1956.

Resch, a native of Cleveland, came to Minneapolis in 1929 as secretary-treasurer of McQuay Radiator Corp., a predecessor company of McQuay, Inc.

He became president of McQuay in May, 1933 and chairman of the board in 1948. He was also chairman of the board of American Automatic Ice Machine Co. and president and director of McQuay Chimneys, Inc.

He is survived by his widow, a son, Jay R., and two grandchildren, Roy Jay and Jeffrey, all of Minneapolis, and a brother Irving C., Cleveland.

News of Heating

COMING UP NEXT WEEK for NEWS readers is another special heating section. It will contain a variety of articles and pictures on methods, products, and people in the heating field.

Know
where you're
heading ...
Insist upon
READING!



READING COPPER TUBING *truly trouble-free*

for Refrigeration &
Air Conditioning Equipment

Made by Copper Tube SPECIALISTS

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Heat Pumps Caught In Gas-Electric Squabble for Air Force Base Housing

LITTLE ROCK, Ark.—A trio of Congressional investigators has recently completed an inquiry into whether electric heat pumps are the most economical means of heating and cooling a new housing project at the Little Rock Air Force Base here.

The House Appropriations Committee, which sponsored the investigation, would not say if or when the results of the study would be made public.

Gas Utility Objects

The investigation resulted from gas utility objections to an Air Force decision to go all-electric, including heat pumps, in the 1,535 housing units for airmen.

Arkansas-Louisiana Gas Co. of Shreveport, the gas utility that lost the competitive battle

to serve the project, based its objection on the economy angle. It charged that the use of gas for everything but cooling would cut expected operating and maintenance costs at the project by \$314,000 per year. The Air Force will pay the utility bills.

It asked the committee to cancel the parts of the \$21.5 million construction contract pertaining to water heating, house heating, and cooking.

The Arkansas Power & Light Co., which will furnish power to the project under the present contract, questioned the gas utility's figures. Its total annual revenue from the project will be only \$207,000, it claimed.

The investigators had the job of finding out who was right.

'Who's To Get the Cooling Load?'

Behind the apparent anxiety to save the Air Force money is a competitive battle over who's to get the cooling load, not only here but throughout the whole area, it is reported. Both gas and electric utilities throughout this part of the south are watching developments closely.

Selection of heat pumps for the air base is expected to give sales of that appliance a big boost elsewhere. It gives our salesmen something definite to talk about, one electric utility official declared.

'Milestone'

Another termed the Air Force a milestone in the progress of all-electric living.

Gas utilities, who find themselves very much in need of new summer load, are not happy about the decision and are fighting it as hard as they can.

The heat pump contract has been awarded to the Mathes Co.

Curtis Mathes, Sr., president, said he expected Mathes to sell 6,000 to 8,000 heat pumps this year, largely in the South.

"We'll break through in the North and East next year," he declared.

H. W. Mutz Succeeds F. M. Mutz as Head Of Peerless Corp.

INDIANAPOLIS—After more than 16 years as president of the 57-year-old Peerless Corp. here and Round Oak Co., Inc., Dowagiac, Mich., Frank M. Mutz was elected chairman of the board at a recent meeting of the board of directors. Harold W. Mutz, who has been vice president, was elected president.

Other officers of the two corporations elected at the board meeting are: J. W. Barrow, secretary, elevated to vice president and treasurer; Tom Mutz, in charge of local retail sales, and O. U. Mutz, sales manager, elected vice presidents. Oran Watts was elected secretary and Kenneth Jarrett as assistant secretary of Round Oak.

Founded in 1871, Round Oak Co. is one of the nation's oldest manufacturers of heating equipment. Peerless and Round Oak sell a complete line of central system air conditioning.

BOX TEMPERATURE

40°
38°
36°
34°
32°
30°

Curve #1
"Off-Cycle" Defrosting—30 Minutes Refrigerating Cycle, 15 Minutes Defrost Cycle.
Equipment Selection Based on 16 Hours Operation.

Curve #2
"F" THERMOBANK—170 Minutes Refrigerating Cycle, 10 Minutes Defrost Cycle.
Equipment Selection Based on 20 Hours Operation.

1 2 3 4
HOURS

FRESH FOOD INDUSTRY ACCLAIMS NEW KRAMER "F" THERMOBANK

KRAMER UNFOLDS A NEW CONCEPT OF REFRIGERATION APPLICATION FOR FRESH FOOD

To obtain the fullest advantage in the storage of most fresh food, a constant temperature of 30° or 32° must be maintained. Since every defrost cycle results in fluctuations in temperature and humidity, to maintain the best storage conditions the number of defrost periods and the length of each defrost must be reduced to an absolute minimum.

The new "F" THERMOBANK has the fewest possible defrost periods and is the only system that will go into a defrost when it is really needed and not before; this is most essential to prevent unnecessary defrost which results in wide temperature and humidity fluctuations in the storage room. (See Curves)

The "F" THERMOBANK is completely defrosted in the shortest possible duration (10 minutes). No other defrost system, regardless of type, can approach this fast defrost,

but the rapidity of defrost is indispensable to hold the ideal conditions of 30° or 32°.

Because the "F" THERMOBANK guarantees the fewest and most rapid defrosts, equipment is selected for 20 hours operation. This permits the selection of a smaller compressor and a smaller THERMOBANK system resulting in lower first cost as well as economical operation. When the added benefits of "F" THERMOBANK features such as less waste, longer shelf-life, less dehydration, less mold and bacterial infection, and maintenance of "freshness" during storage, are included in the cost estimate, the "F" THERMOBANK is incomparable in value.

Selection and application of the "F" THERMOBANK are simple. Rapid selection tables covering a wide range of cooler sizes for 30° applications are available.

WRITE FOR BULLETIN TV-380

KRAMER TRENTON CO. • Trenton 5, N.J.

43 YEARS OF CONTINUOUS ACHIEVEMENT IN HEAT TRANSFER

For more information about products advertised on this page use Information Center, page 26.



KELVINATOR TRADE WINDS

A WHALE OF A PROMOTION

New Models—Special Prices—Proven Traffic Builders—Powerful Closers!

A RETAIL STORE SPECTACULAR BUILT ON

SPECTACULAR PRODUCT VALUES



The Sales-Making Sensation Of The Season...The Top End Model That Tops Them All!

THE INCOMPARABLE FOODARAMA '57

Every day more and more dealers report the spectacular results that they are now getting in creating sales excitement with 1957's great retail store spectacular—Kelvinator "Trade Winds". And don't forget that "Trade Winds" is a full peak-season

promotion with everything that is needed to keep your selling activity in high gear over an extended promotional period. There is still time to take advantage of 1957's most powerful appliance program. Get those "Trade Winds" blowing your way now!



American Motors Means
More for Americans



Live Better
Electrically

Kelvinator MEANS BUSINESS

Division of American Motors Corp., Detroit 32, Mich.



GOOD BUSINESS FOR YOU!

ASRE Forum Decries Absence of Auto Conditioner Mfrs.

Look Into Overheating Problem at Low Speeds Brings Suggested Solutions; Seek To Hold Future Auto Air Conditioner Forum

MIAMI BEACH, Fla. — Some of the design, application, and use problems with automotive air conditioning were tossed around among the ASRE members who participated in the forum on automobile air conditioning held during the annual ASRE meeting.

In these forums, the members speak freely on any phase of the subject, and there is no

mention made of any individual in any report on the forum.

Some of the major points of discussion were the following:

Overheating at low driving speeds, and possible remedies.

Amount of capacity needed, and the relative effect on the introduction of fresh air on capacity.

Relative merits of the rear-mounted, under-the-hood, and

"hang on" under-the-dash units.

Problems of general design and component design, as related to automotive engineering, design, and production practice.

Type of controls being used in automobile air conditioning.

The forum brought out some spirited discussion, but there was some disappointment expressed over the scarcity of manufacturers of automobile air

conditioning, and of automobile manufacturers.

There was unanimous agreement among the participants that automobile air conditioning be the topic at a future ASRE forum, and that special effort be made to have in attendance representatives of manufacturers of automobiles and automobile air conditioners.

Problem of overheating (both the automobile engine and the refrigerating mechanism) when the engine is idling or the automobile is moving at very low speed, brought forth a lot of discussion, and a variety of sug-

gested solutions, among which were:

How To Correct Overheating

Shift into low gear.

Take great care to keep the radiator water clean and free from scale, so that maximum efficiency of the engine cooling system is achieved.

Keep the exterior, finned areas of the radiator and the condenser clean and free from bugs, and other clogging material.

Make use of a special shroud to direct the air over the condenser for maximum cooling.

Use of a special control that will keep the fan going at the proper speed, no matter what the engine speed may be. One 1957 model automobile is said to have this device.

Uses Marine Type In Hood

One owner of an air conditioned automobile said he had equipped his hood with marine type vents, and solved the problem of overheating in this manner.

One contention was made that with the lowered silhouette favored in current design of automobiles, plus the crowding of more horsepower under the hood, that sufficient area for the flow of air through the engine compartment for cooling purposes is just not available. This was debated pro and con, but without a representative of an automobile manufacturer being present, it was difficult to arrive at a definite conclusion.

The question was raised as to how much cooling capacity is needed to cool an automobile interior. No one at the forum seemed to have much information on what load calculations, if any, have been made for automobile air conditioning. It was agreed that there are several variables, such as amount of fresh air introduced, size of the vehicle, and average number of persons carried.

Discusses Capacities

It was stated that an "average" capacity of systems currently being installed in automobile air conditioners would average around 15,000 B.t.u. per hour at road speeds of 25 m.p.h. Others said that capacities might vary from 8,000 B.t.u. to 24,000 B.t.u. depending upon the conditions.

How much fresh air is needed in automobile air conditioning, and how does the introduction of fresh air affect the load? These questions went without a definite answer, although the opinion was expressed that factory installed systems are generally tending to make some special provision for the introduction of fresh air.

A subject which evoked considerable discussion was that of the relative merits of the trunk-mounted, front-mounted, and "hang-on" type units. Most of the opinions rendered were on the basis of personal experience with the various types of systems, rather than being the opinions of those who are concerned with the design and manufacture of such systems.

One forum participant who said he had experience with both trunk-mounted and front-

(Concluded on next page)

Ranco offers you a practical new

Manual of Replacement Controls

New Ranco Replacement Reference Lists Industry's Biggest Line

You'll appreciate the new Ranco Replacement Reference (No. 1660). Its complete revision and new loose-leaf format make it the most complete and most convenient replacement control manual in the industry.

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See your Ranco Wholesaler today. Ask for Ranco Replacement Reference No. 1660—your permanent manual for replacement controls.

WORLD'S LARGEST MANUFACTURER OF REFRIGERATION CONTROLS

ASRE Forum--

(Concluded from preceding page) mounted systems declared in favor of the front-mounted system because it got great cooling capacity more quickly into the interior of the car, promoting more rapid pull-down. Also in such systems the cooled air is thrown more directly onto the front seats, where it is most needed.

However, another participant claimed that while the front-mounted and hang-on units did a good job of cooling the legs and lower parts of the body, that they might not do a good job of cooling the upper part of the automobile, where the sun load would be the heaviest. One statement was made that a good air distribution system in an automobile would be one that threw the discharge air over the driver's head and against the windshield.

Components Cramped In Front-Mounting

Other objections voiced about the front-mounted units concerned the cramped space in which to place the system components, and the high ambients in which these components would have to operate.

Charge leveled against the rear-mounted units was high costs, and taking up of trunk space, and less cooling efficiency because of long duct runs.

One participant said a favorable feature of the "hang-on" under-the-dash unit was that it could be transferred from a car that was going to be traded in.

Thermostat Cycling Clutch Control

A thermostat cycling a clutch seems to be the most prevalent type of control used in current models of auto air conditioners, it was the consensus of the forum. Proper location for the thermostat was discussed, with some contending that the actuating bulb be in somewhat close proximity to people in the automobile. The argument was that location in the return air stream has too much lag and other disadvantages.

Other control methods discussed included the use of a bypass valve to by-pass the hot gas, this either being pressure operated off of the low side, or temperature operated. The question was raised as to why a continuously operating compressor, with a reheat cycle, might not be a good idea.

Objection was raised that any constantly operating unit will reduce gas mileage considerably.

A wide variety of combinations of materials is being used in condensers for automobile air conditioning systems, it was brought out. Steel fins on steel tube, with the surface painted, is proving popular.

N. M. James, Sr. Dies Tenn. Voters OK Trane Building Bond Issue

DETROIT — Norman M. James, Sr., president of James & Roach, Inc., mechanical contractors, and Temperature Control, Inc., Carrier distributorship here, died June 15 in William Beaumont Hospital, Royal Oak, after a brief illness.

He was 63 years old.

James, who had been a Carrier distributor here for many years, is survived by his wife Kathryn, a son Norman M. Jr., who is active in the distributorship, a daughter Kathryn, and a brother, Conway.

CLARKSVILLE, Tenn. — By an overwhelming vote of 6,073 for and 51 against, Montgomery County voters approved the issuing of \$3,000,000 in industrial revenue bonds to build a new Trane Co. plant here.

Revenue from the bonds will be used to build a plant for lease to Trane, which will make residential-type central air conditioning units here. Production is expected to begin early in 1958.

Stewart Industries Becomes Highside Chemicals Again

CLIFTON, N. J. — The business conducted by Stewart Industries, Inc., formerly Highside Chemicals Co., has been purchased by a new corporation known as Highside Chemicals, Inc., it was announced recently.

It is presently anticipated that the business will continue to be conducted from the same address, 10 Colfax Ave., and by the same personnel. The addition of Albert R. Shelby to the organization as secretary-treasurer is planned.

To Make Filters

CLARENDON, Ark. — A \$350,000 factory to manufacture air conditioner filters and wood and metal milk bottle crates will be established here by Stoddard Mfg. Co., a subsidiary of Chicago Milk Crate Mfg. Co. of Chicago.

To Cool Church

SPRINGFIELD, Mo. — Midwest Sheet Metal Co., owned by Manual Dameron, has the \$30,000 air conditioning job on the remodeling project of the Assembly of God church.

BRUNNER
SINCE 1906

OVER 200 AUTHORIZED
SUPPLY HEADQUARTERS
... from coast to coast,
for nearby supply of
Brunner-Metic and
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parts... fast, easy WAR-
RANTY SERVICE

BRUNNER-METIC semi-hermetic Condensing Units from 1/4 H.P. through 3 H.P.

BRUNNER CONDENSING UNITS . . . engineered to the right size for every Refrigeration and Air Conditioning job

Brunner's complete line makes it easy for you to supply condensing units that exactly match the capacity requirements for any refrigeration or air conditioning job . . . big or small!

With a horsepower range from 1/4 H.P. through 100 H.P., the Brunner line offers you unlimited opportunities for more sales in 1957.

Want all the facts? See your Brunner representative, or write for catalogs and engineering data.

BRUNNER MANUFACTURING COMPANY, UTICA, NEW YORK
THE BRUNNER COMPANY, GAINESVILLE, GA.
In Canada: Brunner Corp. (Canada) Ltd., Toronto, Ontario

BRUNNER OPEN-TYPE Condensing Units from 1/4 H.P. through 100 H.P.

BRUNNERIZE FOR DEPENDABLE REFRIGERATION AND AIR CONDITIONING

AIRO stands for

- Speedy, dependable, world-wide service.
- Air Conditioning and Refrigeration parts, equipment, supplies.
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VACUUM pump introduced by Armstrong Furnace Co. is a new tool for installing and servicing air conditioners.

Armstrong Vacuum Pump Eases Air Conditioner Installation, Servicing

COLUMBUS, Ohio — A new tool for installing and servicing air conditioners has been made available to all Armstrong Furnace Co. dealers. The new tool is a durable, efficient, lightweight (only 31 lbs.) vacuum pump, ac-

ording to the manufacturer.

"A clean dry system plus a considerable saving in refrigerants is assured when this new vacuum pump is used," it was stated.

"It is built to obtain high ultimate vacuum at a dependable pumping speed. The pump is a compact, self contained, easily portable tool. Minimum attention is required as the unit automatically lubricates itself. It is rugged, yet very accessible for maintenance. All working parts have been precision machined to ensure continuous peak performance over long periods of time.

The company listed these other features of the pump:

It is both economical and safe; there is an external oil fill cap; the suction line is connected direct to suction cap on the manifold to prevent air leakage; the standard refrigeration valve is connected to pump base and attached directly to the suction line; there is a built-in handle.

Conditioning, Commercial Refrigeration Sales Bounce Up 18% In March over Feb.

WASHINGTON, D. C. — Air conditioning and commercial refrigeration distributor sales slumped 11% in March from the like month last year, but bounced upward 18% over February, according to the monthly wholesale trade report by the Bureau of the Census.

Sales slipped slightly by 4% for the first three months of this year as against the same period in 1956. Air conditioning and commercial refrigeration distributor inventories climbed 12% in March as compared with March of last year and were up 1% over February.

Plumbing and heating equipment and supplies distributor sales dropped 3% in March as compared with the same month last year, but rose 9% over

February. There was a slight dip of 1% in sales for the first three months as against the like period of 1956. Inventories were down 2% from March of last year, but held steady as compared with February.

Distributors of electrical appliances, TV, radio sets, and electronic parts saw sales back off 4% in March as compared with the same month of 1956, but sales remained equal with February and for the first three months. Inventories were up 8% in March over March, 1956 and 3% higher than February.

To Cool Court House

GULFPORT, Miss. — A contract for \$56,048 for air conditioning the Harrison County court house has been awarded.

Trane Exports Up 60%, Sees Growing Demand For Air Conditioning

LA CROSSE, Wis. — The Trane Co. experienced a 60% increase in export sales during 1956 over 1955, according to Don Reed, export manager.

Dock tie-ups and the Suez Canal incident were listed by Reed as the major difficulties encountered during 1956 with the continuing dollar shortage of many foreign lands a constant problem. Trane air conditioning equipment for the Middle and Far East was diverted around the Cape of Good Hope, avoiding the Suez trouble spot.

Reed forecast a growing demand for air conditioning in foreign countries. Increasing industrialization, power developments, and growing acceptance of air conditioning were listed as his reasons.

During 1956, Trane products were shipped to 42 countries, including Alaska, Argentina, Bahrain Islands, Belgian Congo, Belgium, Brazil, Chile, Colombia, Cuba, Curacao Island, Egypt, El Salvador, Formosa, Greece, Hawaii, Iceland, India, Indonesia, Iran, Israel, Italy, Jamaica, Japan, Korea, Lebanon, Mexico, Okinawa, Panama, Peru, Philippine Islands, Portuguese East Africa, Puerto Rico, Saudi Arabia, Union of South Africa, Spain, Switzerland, Thailand, Turkey, Uruguay, and Venezuela.

Consolidated Diesel Buys Lima Electric Motor Co.

STAMFORD, Conn. — Consolidated Diesel Electric Corp. reported the acquisition by a wholly-owned subsidiary of the business and assets of The Lima Electric Motor Co., Lima, Ohio, manufacturer of gearshift drives and electric motors.

Announcement of the acquisition was made by Norman I. Schaffer, Con Diesel president.

Schaffer declared that the acquisition represents "the latest step in a purposeful program of diversification within the fields of diesel and electric generating equipment, aircraft ground support equipment, and test and automation equipment." It is the plan of the Con Diesel management to expand Lima's operations from the present level of 130 employees.

Schaffer reported that the Lima business will be operated by The Lima Electric Motor Co., Inc., a wholly-owned Con Diesel subsidiary.

Wayne M. Gideon, a vice president of the predecessor firm, has been appointed executive vice president and general manager of the Con Diesel subsidiary. Other appointments announced were those of Patrick F. Dwyer and Burt F. Wyandt, who continue in the posts, respectively, of sales manager and chief engineer.

To Be Cooling Dealer

RICHMOND, Va. — Air Flo Heating & Air Conditioning, Inc. here has been awarded a local dealership for Frigidaire air conditioners and heating units, according to William G. Kirk, Air Flo president.

anco CONDENSER CLEANER

DISSOLVES SCALE FASTER

... AND HERE'S WHY



Anco Condenser Cleaner is simply dissolved in the sump while the system is in operation.

ANCO CONDENSER CLEANER removes scale from condenser tubes and water pipes quicker and slicker than any similar product. The secret is in special wetting agents which help the scale-dissolving chemicals bite into the scale faster. And with all its speedy-action, Anco is harmless to metals because it contains highly effective inhibitors.

You would expect to pay more for this superior product, but Anco Condenser Cleaner is actually priced lower than other leading brands.

Buy Anco. You'll like it better.

FREE

WATER TREATMENT MANUAL

A complete booklet on the control of scale, rust and algae in refrigeration and air conditioning systems. No service department should be without a copy. It's yours for the asking.



AVAILABLE WITH OR WITHOUT COLOR INDICATOR

Sold by wholesalers of air conditioning and refrigeration supplies

SPECIALISTS IN MAKING WATER BEHAVE



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MONEY TALKS . . . BUT NOT AS LOUD AS OUR CHIEF BUYER WHEN IT COMES TO QUALITY COMPONENTS!

All our vendors know that when they are dealing with Jerry Clark, our Purchasing Agent, there are no short cuts on quality.

Obviously, as with all buyers, Jerry is seriously concerned with price. Delivery is another vital consideration. "But," says Jerry, "I'd be sticking my neck out a mile with top management if I sacrificed quality in favor of a break in either price or delivery." Jerry is right. When we entered the

air conditioning and refrigeration compressor business, we knew that we would have to have something better in our product line to offer at a competitive price and be able to guarantee its dependability.

Here at the Evansville Division we believe we've done just that, and reports from manufacturers who are now using our compressors prove that we're right.

Of course, sound, intelligent purchasing of reliable components is just one of the many ways we assure built-in dependability in every Bendix-Westinghouse compressor. We'd welcome the opportunity to tell you about all the others.

Write us for further information and a prompt visit from one of our regional managers. Evansville Division, Evansville 11, Indiana. *Export Sales:* BENDIX INTERNATIONAL DIVISION, 205 East 42nd Street, New York 17, New York.

EVANSVILLE DIVISION of
Bendix-Westinghouse

Automotive Air Brake Company

For more information about products advertised on this page use Information Center, page 26.

Frigidaire Survey Shows

Central Unit Air Conditions 1,200-Sq. Ft. House for \$6 a Month In Cooling Season

DAYTON—The monthly operating costs of full home central system air conditioning equipment during the cooling season average just under one cent per square foot, according to a new national survey conducted by Frigidaire Div. of General Motors Corp.

Bryon C. Wagner, Frigidaire's air conditioning sales manager, who announced the survey results, pointed out that on this basis a central unit in today's popular 1,200-sq. ft. house can be operated for less than \$72 during an average six-month cooling season.

"Generally speaking this means that the entire house can be cooled for about \$12 a month

during the cooling season," Wagner explained.

Turning to the cost of equipping the house with a central system air conditioner, he advised homeowners to estimate this expenditure at between \$6 to \$10 for each square yard of floor space, or 67 cents to \$1.10 per square foot.

Wagner went on to say that much of the "first cost" of the

Opens Eastern Office

PHILADELPHIA — Ansul Chemical Co. has announced the opening of its new Philadelphia sales office at 1 Bala Ave., Bala Cynwyd, Pa. The office was formerly located at 828 N. 29th St., Philadelphia.

home air conditioning equipment actually can be written off in benefits and savings effected for the entire family over a 10-year period of amortization of the unit's life.

In this category, he mentioned increased valuation of the house, better health, economies in cleaning and redecorating, lower summer driving mileage for the family car, and less expenditure for outside entertainment during the summer hot weather season.

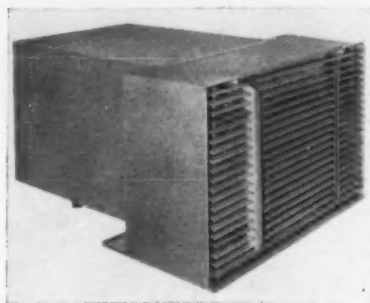
"Translated into dollars and cents savings," he emphasized, "these benefits will pay a substantial return on the original investment made for air conditioning equipment."

Flexible 3-Hp. Air-Cooled Home Unit To Retail for '\$1,000 or Less'

DAYTON — Disclosure of a new low-cost 3-hp. central home air conditioner, retailing "for \$1,000 or less installed," was made by J. F. Knoff, vice president of sales for Airtemp Div., Chrysler Corp.

The waterless conditioner is designated the Airtemp 1103-2. With it, Knoff said, "the company's competitive position in the field of residential air conditioning is immeasurably strengthened. The new packaged conditioner enables penetration of a vital segment of the market—the six to seven-room house," he added.

It was pointed out that the Airtemp 2-ton waterless package, introduced about this time last year for homes in the five to six-room range, "had proved



NEW Airtemp 3-hp. home air conditioner, complete with outside grille, is shown here. Ductwork, thermostat, ceiling diffusers, and return grilles are furnished with the unit which is designed to retail at "less than \$1,000 installed."

most successful in that market. "Design of the 1103-2 permits flexibility of installation—in attic, crawl space, or basement," according to the announcement. "It will air condition an area up to 1,800 sq. ft. in either a new or existing home. It can be tied-in with forced air heating or operated independently of the heating system."

PACKAGE COMES READY TO RUN

The complete 1103-2 package consists of a factory-assembled 3-hp. waterless air conditioner, complete and ready to operate; an automatic thermostat with "On-Off" switch for the cooling circuit, and a switch for independent operation of the blower; glass-fiber ductwork "to fit the needs of most installations"; seven ceiling diffusers; and two return air grilles and an outside grille.

DUCTWORK ACTS AS OWN INSULATION

"The glass-fiber ductwork is pre-scored and shipped flat," it was pointed out. "For installation, it is folded into insulated ducts and secured by pressure-sensitive tape. The ductwork is moistureproof and acts as its own insulation."

"A diffuser is mounted in the ceiling of each room to provide uniform distribution of cool air. Adjustable diffuser louvers permit air to be directed wherever desired."

Shipping weight of the complete package is about 1,000 lbs. Dimensions of the conditioner are: height—27¹/₂ in., width—45 in., depth—53³/₈ in. The entire refrigeration circuit is warranted for five years.

Factory production of the Airtemp 1103-2 "already is at high level," the firm said. Nationwide shipments are now being made to meet needs of Airtemp franchised distributors and dealers.

Marketing Consultant To Specialize In Gas Cooling

DALLAS—Donald M. Mayne, who for more than 20 years has been engaged in the gas air conditioning business, recently announced the formation of a new marketing consulting firm specializing in gas air conditioning. Mayne said the new firm's services to the gas industry would include marketing, organization, training programs, procedures, and related areas of business. Headquarters of the firm will be at 4321 Shenandoah in Dallas.

ALL WITH MODERN MERCURY SWITCH DEPENDABILITY...

T-231 TWO-STAGE HEATING AND COOLING

T-99 COOLING THERMOSTAT Optional Fan Control

T-241 TWO-STAGE HEATING AND COOLING Automatic System Changeover

T-90 YEAR 'ROUND HEATING-COOLING

TEMPOTHERM 365 CLOCK CONTROLLED DAY-NITE, HEATING-COOLING

AMERICA'S MOST COMPLETE LINE OF AIR CONDITIONING THERMOSTATS!

118 FUNCTION VARIATIONS TO CONTROL ANY SYSTEM

- COOL, HEAT, FAN, AUTO, OFF, RESET SWITCHING FUNCTIONS
- SINGLE OR TWO-STAGE HEATING WITH SINGLE OR TWO-STAGE COOLING
- HEAT AND COLD ANTICIPATION
- DAY AND NITE CLOCK PROGRAMMING
 - SINGLE DIAL OR TWO DIAL TEMPERATURE SELECTION
- MANUAL OR AUTOMATIC CHANGEOVER

For control of gas, oil, coal, electricity refrigeration, evaporative, chilled water and heat pump systems.

General Controls continues to set the pace in creating the kind of *advanced design* thermostats that afford the systems engineer maximum selectivity in air conditioning thermostats. Not only do General Controls thermostats please the homeowner by their beauty and simplicity of line, they also signify *quality*—and prove it by delivering the top performance engineered into systems and related equipment.

Consult your nearby General Controls office for complete details on the many air conditioning thermostats available.

You design it... we'll control it... *automatically*.

5 basic styles harmonize with any architectural or decorating theme



GENERAL CONTROLS

America's Finest Automatic Controls for Home, Industry, and the Military

Glendale, California • Skokie, Illinois

Five Plants — 40 factory branch offices serving the United States and Canada

COLOR

at the Price of White

-another Frigidaire "first"

It's no secret that color helps sell merchandise.

That's true whether you're talking of cars or clothes — baby carriages or egg beaters.

And it's true of home appliances.

Sure—we know many people wind up buying *white* appliances.

But we also know that color brings them into the store. Color helps sell *white*—because *color attracts attention and boosts store traffic.*

That's why Frigidaire has led the field in bringing to market *a multiplicity of models in color* — the right colors — including such exclusives as our Charcoal Gray which fits into *any* kitchen color scheme.

But something even more than that was needed.

The need was to take the price premium off color. Color has proved its *drawing power*. Color at no extra cost would prove its *selling power*.

So—again Frigidaire leads the field—*by selling color at the price of white.*

And we're backing up that bold move in our national magazine ads — and with the most intensive, hardest-hitting Spring promotion campaign in Frigidaire history.

Stores all over the country are featuring the FRIGIDAIRE SHEER LOOK COLOR CARNIVAL OF VALUES — on their show room floors, in their windows — and in their advertising.

They're taking full advantage of this newest move that proves again —

FRIGIDAIRE is on the march



Frigidaire — Built and Backed by General Motors

Churches: Important New Air Conditioning Market?

Sees Installations In New, Existing New York Churches Touching Off Coast-to-Coast Trend

Fenn Cites Advantages

NEW YORK CITY—The cooling source for The Church of Our Savior—reportedly the first church in Manhattan to install complete air conditioning at the time of construction—was lowered into the basement excavation at 38th St. and Park Ave. recently.

Charles V. Fenn, vice president of Carrier Corp.'s Machinery & Systems Div., predicted this would "signal the opening of an important new air conditioning market."

First Edifices To Be Fully Conditioned

The first existing churches to be fully air conditioned for parishioners in Manhattan and Brooklyn—St. Malachy's, the famous Actor's Chapel at 49th St., and The Church of the Good Shepherd, respectively—have both just installed Carrier self-contained equipment, Fenn stated.

The parish will serve mid-Manhattan office and store employes and residents of the historic Murray Hill area. It will "combine the latest features of the twentieth century amid a Romanesque architectural setting of the twelfth century."

"Air conditioning of churches all through the northern part of the nation can be expected to increase steadily, bringing to churchgoers the same comfort provided by merchants and entertainment centers," Fenn said. "Installations in new and existing churches in New York City will touch off a trend that is sure to go coast-to-coast."

Advantages of air conditioning which are contributing to the current activity in the church field today are improved attendance and collections, elimination of bothersome street noises due to closed windows, and greater use of the church edifice during the day and evening by various committees and study groups, Fenn stated.

Installs System Without Sacrificing Beauty

The Church of Our Savior has a seating capacity for approximately 1,000 persons in the auditorium and chapel on separate floors and yet occupies a land area of only approximately 100 by 100 ft. To make possible this maximum utilization of available space without sacrificing architectural beauty, the below-street area and the steeple are used to house the air conditioning apparatus.

In the design conceived by architect Paul C. Reilly and Syska & Hennessy, consulting engineering firm, the cooling tower used by the air conditioning system has been cleverly disguised and located in the lower portion of the spire normally occupied only by bells, it was pointed out.

Though the Carrier automatic absorption refrigerating machine with 132 tons cooling capacity has been lowered into place, it will be two years before the unit is turned on, when



SIGNALING what is termed a new trend for the air conditioning industry was the lowering of this Carrier absorption refrigerating machine into the basement excavation of the Church of Our Savior at 38th St. and Park Ave. in New York City.

the ornate structure is completed. The refrigerating unit uses city steam to produce cooling. It will be located just beneath the sub-basement chapel area.

Vermilya-Brown Co. is general contractor. Jarcho Bros., Inc. of Long Island City, is mechanical contractor handling air conditioning, heating, ventilating, and plumbing.

On this and the following two pages, the NEWS offers readers examples of what may become an important new source of air conditioning jobs—that of installing complete systems in churches. Cited are several instances of installations already made. It has been predicted that a trend has been touched off which will "sweep from coast-to-coast."

Protestant, Catholic Churches In Kansas, New Orleans Get Conditioning

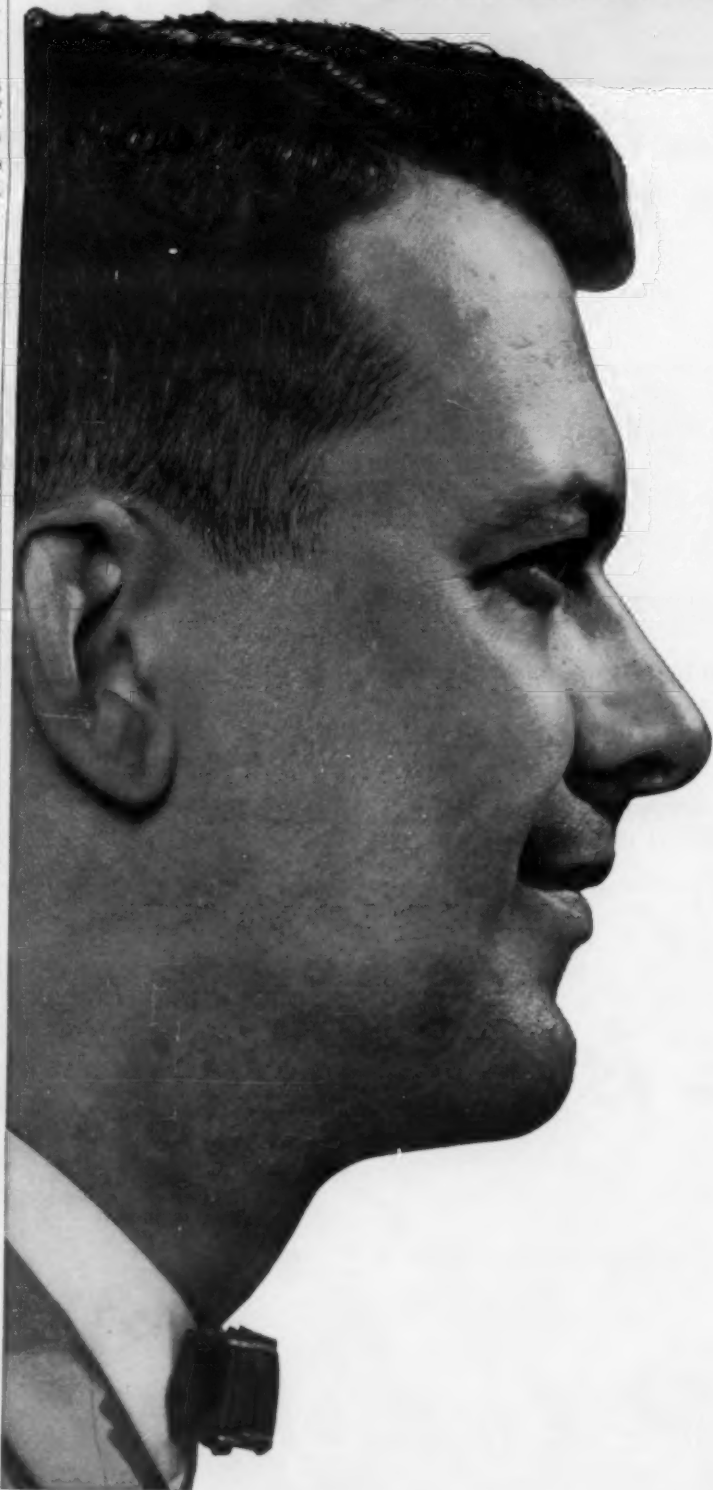
BLOOMFIELD, N. J.—General Electric Co.'s Air Conditioning Div. points with pride to two noteworthy church air conditioning jobs of the past year, using G-E equipment. Using a perimeter heating system, three LG 40 J2 furnaces multiplexed to form one central unit heat the sanctuary area. Two LG 30 JH2 horizontal units were installed in the attic space over the schoolrooms, one LG 30 J2 provides one-zone control for the occasionally-used recreation room, and a second LG 30 J2 takes care of the remaining

Cuzick Plumbing & Heating, a dealer member of the General Heating & Cooling Co. organization, G-E distributor in the Kansas City, Mo. area, installed a heating system and 25 tons of cooling in Trinity Lutheran

(Concluded on next page)

HALSTEAD & MITCHELL ENGINEERS SAID...

"TURBU-FLO AIR-COOLED CONDENSERS PERFORM BETTER"



Type AC—Commercial Air-Cooled Condenser

Extra-large coils and exclusive Turbu-Flo fins add more coil surface. Embossed fins create better "air wash," thus reducing air film resistance and increasing heat transfer by up to 15%. Wide fin spacing—six per inch—keeps coils from clogging with dirt or other air borne particles, assures lasting high performance and lowest maintenance costs.

Sturdy, lock tight construction with double-coated vinyl finish makes H&M Air-Cooled Condensers last years longer—without vibration and rattling. Slow speed, deep pitched fans and draw-through design provide full capacity—quietly.

Because of these facts, Halstead & Mitchell Air-Cooled Condensers are in greater demand than ever. Write for Catalog AC-101 for complete details on Remote Air-Cooled Condensers; ACR-100, on Residential. Halstead & Mitchell, Bessemer Building, Pittsburgh 22, Pennsylvania.



Install 119 Tons of Air Conditioning Without Marring New Redecorating Job

(Concluded from preceding page)

Two FD packaged air conditioners (100G and 150G) cool the sanctuary, the only part of the building now cooled. Extension of cooling facilities is planned at a later time.

At Immaculate Conception church in New Orleans, 119 tons of air conditioning were installed by Climate Control New Orleans Co.

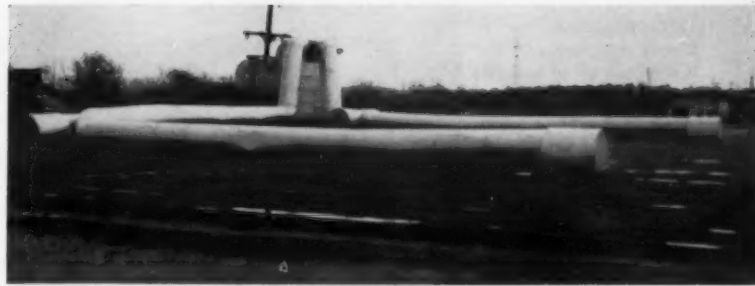
In this installation there was the problem of installing air conditioning without marring the beautiful effect of the newly-redecorated interior.

Peter L. Hilbert, chief engineer for General Heating & Air Conditioning, G-E distributor in the New Orleans area, found the answer was to place seven units on each balcony. Thermostat

control in steps provide adequate tonnage to care for the tremendous mid-day load found at the noon Mass on Sundays and throughout the week.

Sanctuary and sacristy are handled separately by a 10-ton unit in the foyer. The choir has its own unit on special controls for use when the church might not be generally air conditioned, as during choir practice.

"Everyone is delighted," it was noted. As Father Ruggeri points out, "you have to look closely to see the two supply registers immediately above the draperies surrounding the main altar and set of return air grilles in the ceiling of the last archway on either side of the nave. Otherwise, there has been absolutely no alteration or disturbance of the interior."



LIKE the tentacles of a huge octopus, the supply ducts of the 40-ton packaged air conditioner atop Emmanuel Baptist church in Pontiac, Mich., spread across the building roof.

Despite Uninsulated Ducts, Pontiac Church Gets More Air Conditioning than Expected

By George M. Hanning

PONTIAC, Mich. — Members of the Emmanuel Baptist church here got more air conditioning than they bargained for when they contracted the job to P. E. Daubenspeck, Inc.

The church had only so much money to spend. Enough, the building committee figured, to cool the church auditorium. The

two-story wings on either side of the auditorium, used for church school, nursery, and seminary, would have to wait.

The spacious auditorium, including a balcony over the rear third, measures about 80 by 120 by 30 ft. It will hold about 1,400 persons, according to Leland Lloyd, superintendent.

To cool it quickly and keep it cool under heavy load conditions, Jack Sandefur, manager of the refrigeration contracting firm, selected a 40-ton packaged "UsAirco" air conditioner with built-in evaporative condenser.

This he mounted on the roof. Fortunately, one load-bearing wall of the auditorium and a parallel load-bearing wall of one wing were only about 10 ft. apart. By spanning this distance with a pair of I-beams, Sandefur was able to mount the 8,400 lbs. of equipment securely without any special bracing or supports.

2 Long Supply Ducts Move Air to Diffusers

Four ceiling diffusers were installed in the roof over the auditorium. Two were placed just ahead of the altar and choir area. Two were located just ahead of the balcony.

From the unit, two long supply ducts were used to move the air to these diffusers. The ducts were strung along the roof, saving considerable installation cost, according to Sandefur.

Again, to cut down costs, they were left uninsulated. The church building committee said they would be insulated when additional funds became available.

Though the committee was advised that the system would lose efficiency through lack of insulation, the ducts remain uninsulated after two seasons of use. They have been painted with aluminum paint, however.

Lloyd claims that the system provides all the cooling that is needed as it is. He is very well satisfied with its performance. So is Dr. Tom Malone, pastor of the church.

Not as much cooling is lost through the ducts as might be expected, Sandefur commented, because of the high velocity at which the air travels. The system handles 10,000 c.f.m.

Return air for the system is taken through a single grille in the ceiling of the stairwell just below the unit.

Provides 'Bonus' Conditioning

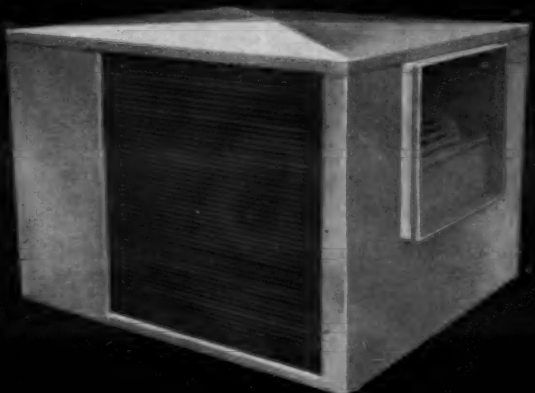
This not only eliminated any ductwork for the return side of the system, Sandefur commented, but it provided "bonus" cooling for the church.

As planned for cooling the auditorium only, two doors at the front of the auditorium can be left open. Return air flows through these doors, along a "back stage" corridor, and up the rear stairwell to the unit.

It was found, however, that by leaving the back doors of the auditorium and balcony open and closing the front doors, air from the auditorium would be drawn through the wings to (Concluded on next page)

SO HALSTEAD & MITCHELL WHOLESALERS SAID...

"TURBU-FLO AIR-COOLED CONDENSERS SELL FASTER"



Type ACR—Residential Air-Cooled Condenser

Turbu-Flo Air-Cooled Condensers are profitable to handle, just as H&M products have always been. Halstead & Mitchell has always had that *something extra* that can be sold—Turbu-Flo Air-Cooled Condensers; Cooling Towers with a 20-Year Guarantee on the wetted deck surfaces against rotting or fungus damage; Cleanable Water-Cooled Condensers.

H&M Air-Cooled Condensers are available in a wide range of capacities for all air conditioning and refrigeration applications. Wide fin spacing, exclusive Turbu-Flo fins, sturdy, rattle-proof construction assure constant high capacity and lowest operating and maintenance costs.

Find out for yourself why Halstead & Mitchell is the best line to handle. More information is yours for the asking. Halstead & Mitchell, Bessemer Building, Pittsburgh 22, Pennsylvania.

MAIL THIS COUPON FOR MORE INFORMATION

HALSTEAD & MITCHELL, Bessemer Building, Pittsburgh 22, Pa.

Please send more information on H&M Turbu-Flo Air-Cooled Condensers.

AC-101 "Commercial" ☐; ACR-100 "Residential" ☐

I am a: Wholesaler ☐; Contractor ☐

Name

Company

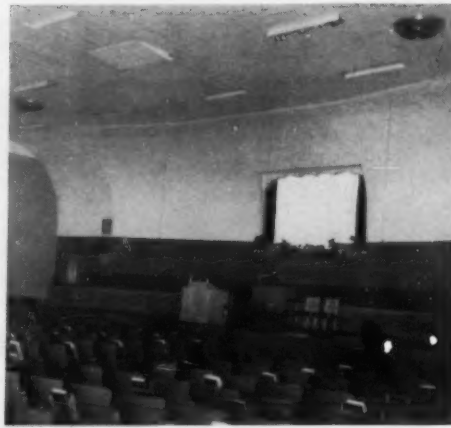
Street

City Zone State





LEFT: Inspecting the I-beams that support the 8,400 lbs. of equipment are Jack Sandefur, manager of P. E. Daubenspeck, Inc. (l) and Leland Lloyd, building superintendent.



RIGHT: Two of four ceiling diffusers that cool the auditorium of the church are seen here.

'Air Conditioning Definitely Ups Summer Church Attendance'

(Concluded from preceding page) type room air conditioners installed for additional cooling.

It was also found that there was enough cooling capacity in the air passing through the wings to provide real comfort on hot days.

Only in the children's room and the nursery, both of which can be closed off, are window

Plans are being formulated for a new, larger church. It was the original thought that this equipment could be moved to the new church. Then less additional air conditioning equipment would need to be purchased.

But, Lloyd said, it has since been decided to leave the air conditioner in this building to increase its sales value. A complete new system will be installed in the proposed church.

Air conditioning has definitely helped to improve attendance during summer months, according to Lloyd. It has also increased use of the building for school and social purposes.

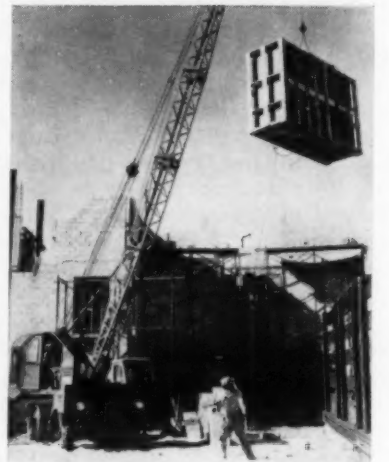
Cool Houses of God

Bigger Capacity Packaged Units Condition Worshipers

WEST PALM BEACH, Fla.—Boys' Roofing & Sheet Metal Works, Inc., local air conditioning firm, can attest to the fact that new larger-capacity "packaged" central station air conditioners are gaining acceptance in the church field.

ALL-SEASON COMFORT

Boys' recently completed the air conditioning of West Palm Beach's new Northwood Baptist church. Dedicated in January, the picturesque church is equipped with an all-season comfort system—the heart of which is an Airtemp 45-ton "packaged" central station unit. The system also includes two 11-ton packaged conditioners that serve the building's Sunday School annex.



NOW under construction, the new First Baptist church, Lake Worth, Fla., will be served by two 20-ton packaged air conditioners. Here workmen hoist one of the large units to its second-floor location site.

"Indicative perhaps of the helpful influence of air conditioning, the church—with a 1,200 seating capacity—has enjoyed maximum attendance since opening," it was said.

INSTALLS 4 UNITS

At Lake Worth, Fla.—a few miles south of West Palm Beach—the now-under-construction First Baptist church is likewise being air conditioned by Boys'. Components on the church's year-round air conditioning system will include two Airtemp 20-ton (model 2620) "packaged" central station conditioners, two 3-hp. air-cooled condensing units with matching cooling coils, and two gas-fired hi-boy furnaces. Scheduled for completion shortly, the church will have a seating capacity of 1,000.

Architect for both churches was Maurice Holley of Palm Beach. Installation of the air conditioning has been under the supervision of E. C. Johannes and C. O. King, of Boys' Roofing & Sheet Metal, who designed the two systems.

King reports that his company is planning a similar system for a third area church.

More POWER with Less Amps!



HELP SOLVE YOUR LOAD AND POWER FACTOR PROBLEMS

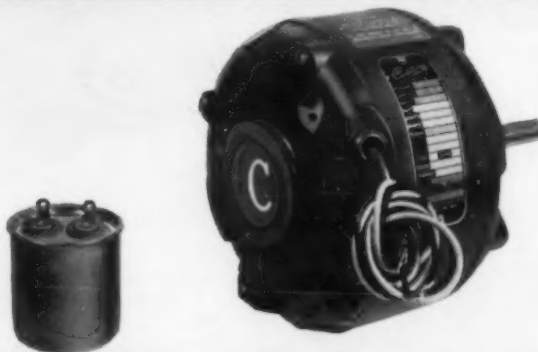
In air conditioning or ventilating equipment, you can reduce starting current, reduce running current and increase power factor with these new Century Fan Motors. They are Performance-Rated for air conditioning manufacturers who are faced with new load and power factor problems. Fan manufacturers find advantages in their short length, light weight, multi-speeds and easy reversibility.

In your product and in your plant, Century Motors are Performance-Rated to fit your needs. For information, call your nearby Century Sales Office, or write us direct.



Type C, Permanent Split Capacitor... round frame, single speed, reversible—also available with cushion mounting.

Type CM, Permanent Split Capacitor... round frame, 2 or 3 speeds, all reversible—also available with cushion mounting.



CE-75

Performance-Rated
1/8 to 400 H. P.



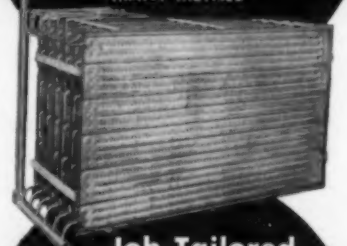
CENTURY ELECTRIC COMPANY

1806 Pine St., St. Louis 3, Mo. • Offices and Stock Points in Principal Cities

For more information about products advertised on this page use Information Center, page 26.

DEAN COLD PLATES for Ice Bank Air Conditioning

MANY SHAPES MANY SIZES
MANY METALS



Job-Tailored

to your exact size requirements, Dean Cold Plates are low in first cost and in operating costs. Write for catalog.

DEAN
PRODUCTS, INC.
1042 DEAN STREET
BROOKLYN 38, N.Y.
STerling 9-5400

Choice territories now available for sales representation. Inquiries invited.

Fedders To Fly Contest-Winning Dealers, Wives to Week-Long Nassau Vacation

NEW YORK CITY—Plans for what is billed as "the largest single company-sponsored 'air lift' in the history of the sales and travel industries" were announced by Fedders-Quigan Corp.

The company intends to fly a total of more than 7,000 appliance dealers and their wives to Nassau, Bahamas for expense-paid, week-long "working vacations" beginning Sept. 16.

Salvatore Giordano, Fedders' chairman and president, explained that its guests will be flown to Nassau by chartered aircraft at the rate of 700 persons per week for 10 weeks. Each week's contingent of 700 will be housed at the Emerald Beach and the British Colonial hotels (both air conditioned).

Pan American World Airways airliners will bring the dealers and their wives from key population centers in the United States direct to the Bahamas capital and, when their week is over, will return them from whence they came.

To qualify for the all-expense "sales vacation-convention," the appliance dealer must sell a certain quota of Fedders' room air conditioners during the summer. By exceeding his quota, the dealer can amass credits sufficient to include his wife and, in many cases, children on the Bahamas trip.

In addition to free air transportation, the appliance salesman has free tabs for hotel

rooms, meals, nightly cocktail parties, imported and native nightclub entertainment, deep sea fishing parties, golf, tennis, sightseeing tours, and treasure hunts.

"Somewhere along the line, of course, the visiting dealer will participate in a sales forum and tune in on the blandish-

ments of Fedders-Quigan sales executives who'll be priming him for even better sales records for next year," it was noted.

Completely Condition Ala. Medical Center

MOBILE, Ala. — The new Mobile Medical Center, 1720 Spring Hill Ave., representing an investment of \$750,000, has been completed. Containing 19 suites, the new building is completely air conditioned.

DRAMATIC display and demonstration piece developed by Philco Corp. for its "Ions for Health!" room air conditioner is shown here. Available through Philco distributors, it includes the graphic "live" demonstrator to prove the smoke elimination efficiency of the "Ionitron" room unit. After four years of medical research, Philco claims the Ionitron negatively ionizes the air for relief of hay fever.



Betty Furness

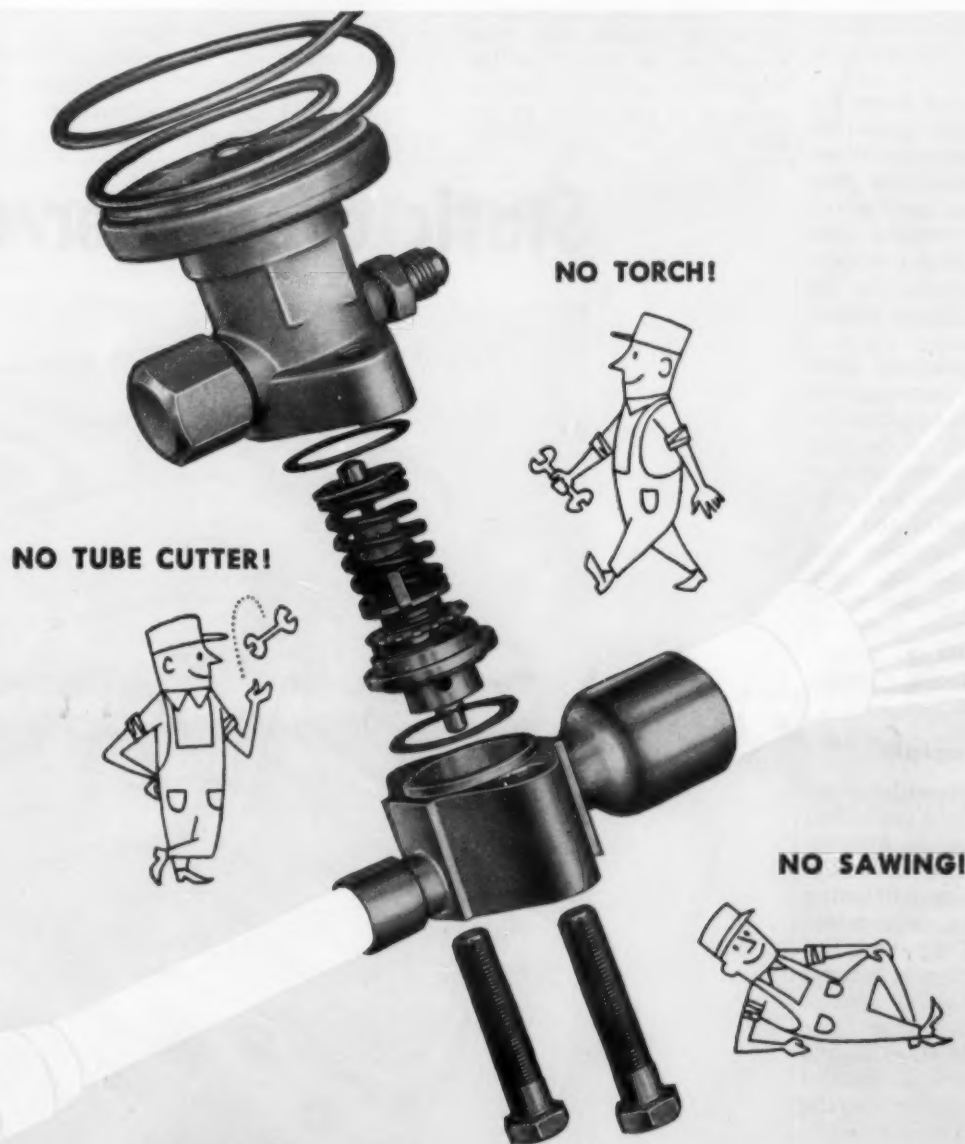


BACKS UP...

**WESTINGHOUSE
CENTRAL AIR
CONDITIONING
DEALERS**

Right through the
**PEAK-COOLING
SEASON!
ON
WESTINGHOUSE
STUDIO ONE
CBS-TV**

You Can Be SURE... If It's
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**THE EASIEST JOB
ON ANY COOLING SYSTEM...
servicing ALCO "T" series thermo valves!**

For cleaning, repair or capacity change: loosen two screws—raise the power element—lift out the cage. That's all!
You never break the connections.

Designers and Manufacturers
of Thermostatic Expansion
Valves; Evaporator Pressure
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see your **ALCO** wholesaler

ALCO VALVE CO.

engineered for service for life

853 KINGSLAND AVE. • ST. LOUIS 5, MO.

UA Local Sets Up Refrigeration, Air Conditioning Div.--

(Continued from Page 1)

card shall not be limited as to the type of work he may perform so long as he is working on air conditioning and refrigeration work as specified in this contract."

Thus, commented Blair Moody, Jr., assistant executive secretary of the contractors' association, "there is no tonnage limitation, which is prevalent in many other areas."

Under the new contract, which was made retroactive to May 1 and extends to June 1, 1958, the contractors' group and the union recognize each other as bargaining agent for the contractors and employees, respectively.

Special Right

Another innovation gives the contractors the right to include in this agreement any provisions of agreements the union may make with other contractors that are more favorable than the provisions in this contract.

The agreement calls for the establishment of three basic, joint committees.

The industrial relations committee will have among its duties fostering "the mutual interests and concerns of the parties to this agreement and to promote by legislative and lawful means the progress and welfare of the refrigeration and air conditioning industry, and to develop greater confidence of the public in the industry through greater use of advertising medium and other public relations programs."

Joint Training Program

A joint apprenticeship committee will "formulate plans and place into operation an apprentice training program for refrigeration and air conditioning journeymen and apprentices jointly originated by the National U.A. and the National RACCA by the establishment of a refrigeration and apprentice school and to establish rules and regulations for the selection and training of apprentices in the industry and to have a voice in the administration and governing of the operation of said school."

In conjunction with this program the union agreed to inaugurate an all-out membership drive to be carried out during the next year. As an added incentive, it will reduce the union initiation fee by an appreciable amount to be determined by the union executive board.

Committee To Handle Wage, Conditions, Grievances Questions

A joint labor conference committee will handle all questions pertaining to wages, working conditions, and any grievances which may arise.

The agreement also establishes an industry promotion and educational fund to which each employer shall contribute four cents for each hour worked by every employee covered by the agreement.

This fund shall be administered by the contractors for activities designed to promote and improve the industry and for the development of a refrigeration and air conditioning school.

Recommendations and suggestions for the operation of this fund shall be referred to the industrial relations committee or to the joint apprenticeship committee for their consideration and disposition.

Under the contract, the contractors recognize the union as "the only trade union possessing the sole and exclusive right to perform the work of servicing, handling, installing, and maintaining domestic, commercial, and industrial refrigeration and domestic, commercial, and industrial air conditioning systems and equipment."

On its side, the union recognizes the contractors' group as bargaining agent for agreements "affecting wages and working conditions in behalf of the refrigeration and air conditioning division of the union in connection with the constructing, in-

stalling, repairing, and servicing of such refrigeration and air conditioning systems and equipment."

The agreement says, "it is understood that the association (contractors) is acting only as the agent in the negotiations of this agreement and that it is the agent only for those individuals, partnerships, and corporations who have authorized it to act, and in no event shall it be bound as principal, or be held liable in any manner for any breach of this agreement by any of the contractors for whom it is acting or any employees of such contractor."

'Joint Liabilities'

"It is further agreed and understood that the liabilities of the contractors who have authorized the negotiations and execution of this agreement

shall be several and not joint. "The employer agrees that he will not hold the union liable for any acts of its members not authorized by said union."

"The union agrees that it will on written request of the employer notify the employer within 24 hours after receipt of said request whether the act of the member or members of the union so complained of was or was not authorized. It not authorized, the union agrees that it will take immediate steps to rectify the situation complained of."

The contract says the employers may hire any person they deem advisable in the event the union is unable to furnish the employer with sufficient qualified employees.

The union agrees to accept such new employees for membership in the union when request is made by said employees. In addition, the union agrees to ac-

cept any employee now employed by any employer.

Any qualified employee not a party to the agreement may become a party by joining the contractors' association and signing the agreement. But the agreement will not become effective until accepted and executed by the union.

The union claims jurisdiction over the following types of work:

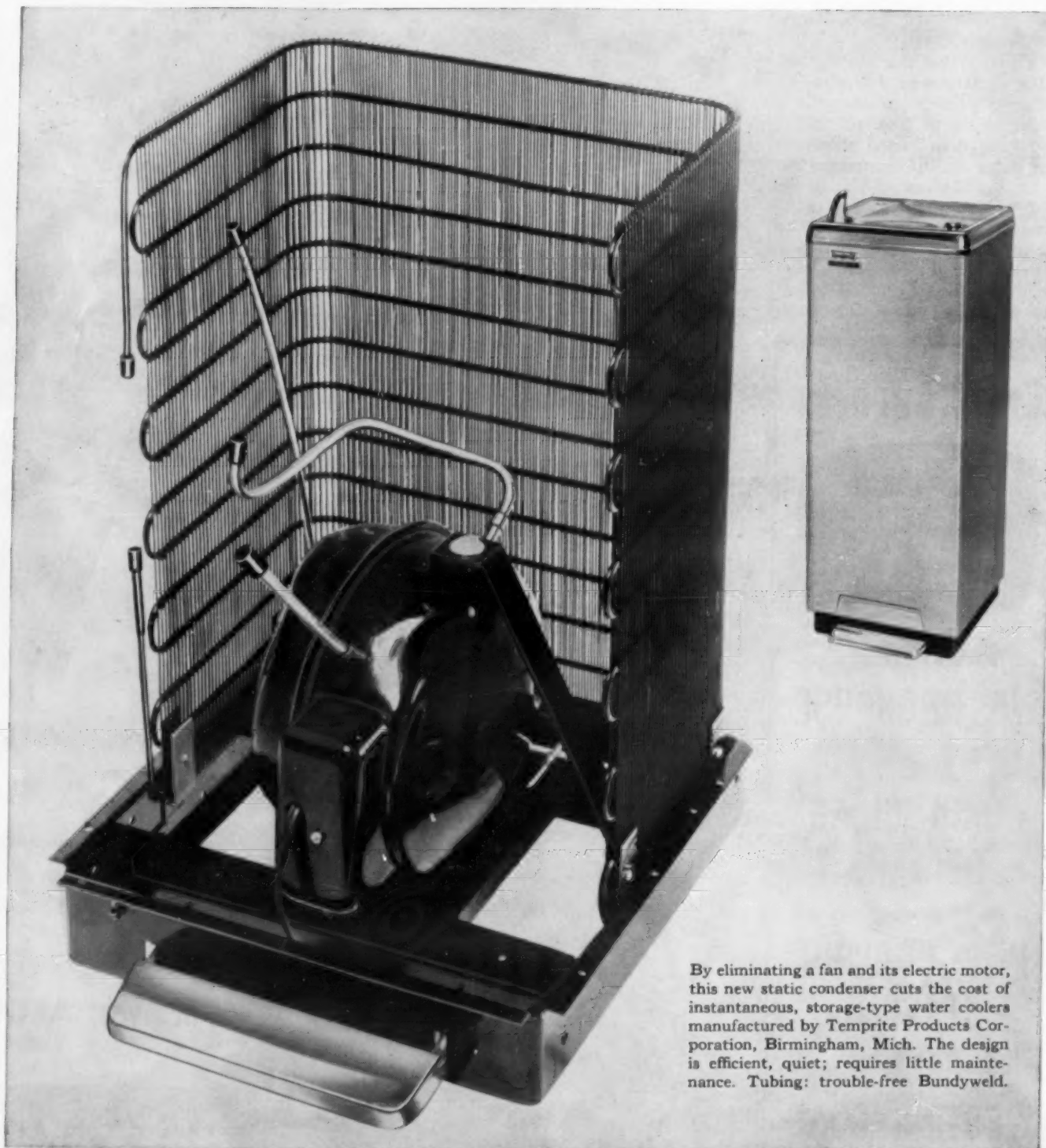
Jurisdiction Set

1. All piping, setting, and hanging of all units and fixtures for air conditioning, cooling, heating, roof cooling, refrigeration ice-making, humidifying, dehumidifying, and dehydrating, by any method, and charging, testing, and servicing all such work after completion.

2. The laying out and cutting of all holes, chases, and channels, the setting and erecting of

(Concluded on next page)

Static condenser of Bundyweld Tubing



By eliminating a fan and its electric motor, this new static condenser cuts the cost of instantaneous, storage-type water coolers manufactured by Temprite Products Corporation, Birmingham, Mich. The design is efficient, quiet; requires little maintenance. Tubing: trouble-free Bundyweld.

BUNDYWELD IS DOUBLE-WALLED FROM A SINGLE STRIP



Bundyweld starts as a single strip of copper-coated steel. Then it's . . .



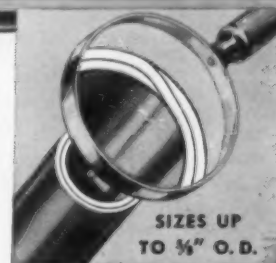
continuously rolled twice around laterally into a tube of uniform thickness, and



passed through a furnace. Copper coating fuses with steel. Result . . .



Bundyweld, double-walled and brazed through 360° of wall contact. SIZES UP TO 1/2" O.D.



NOTE the exclusive Bundy-developed beveled edges, which afford a smoother joint, absence of bead, and less chance for any leakage. SIZES UP TO 1/2" O.D.

Joint Detroit RACCA-UA Agreement--

(Concluded from preceding page)

7. The handling and using of belts, inserts, stands, brackets, supports, sleeves, thimbles, hangers, conduits, and boxes used in connection with the pipe fitting industry.

3. All acetylene and arc welding, brazing, lead burning, soldered and wiped joints, caulked joints, expanded joints, rolled joints, or any other mode or method of making joints in connection with pipe fitting industry.

4. Laying out, cutting, bending, and fabricating of all pipe work of every description, by whatever mode or method.

5. All methods of stress relieving of all pipe joints made by every mode or method.

6. The assembling and erecting of tanks used for mechanical, manufacturing, or industrial purposes, to be assembled with bolts, packed, or welded joints.

8. The operation, maintenance, repairing, servicing, and dismantling of all work installed by journeymen members of the United Association.

9. All piping for cataracts, cascades, i.e., artificial water falls, make-up water fountain, captured waters, water towers, cooling towers, and spray ponds used for industrial, manufacturing, commercial, or for any other purpose.

10. Piping herein specified means pipe made from metals, tile, glass, rubber, plastics, wood, or any other kind of material or product manufactured into pipe, usable in the pipe

fitting industry, regardless of size or shapes.

The contract defines a commercial refrigeration journeyman as one who has been actively engaged in learning and working in the trade of installing and servicing refrigeration and air conditioning equipment for a period of five years or more and is capable of performing any and all mechanical work relating to the installation, construction, maintenance, repairing, or servicing of any and all refrigeration and air conditioning equipment.

Definition of a Journeyman

A domestic refrigeration journeyman is defined as one who for the same period of time has actively engaged in learning and working in the trade of installing and servicing household refrigerators, home and farm freezers, water coolers,

and window-type air conditioners of the sealed unit and/or self-contained type, and other domestic refrigeration equipment and is capable of performing any and all mechanical work relating to the installing or servicing of this type equipment.

A refrigeration journeyman apprentice is a person who is engaged in learning and assist-

ing in the trade of servicing and installing refrigeration and air conditioning equipment and who does not qualify as a journeyman.

The contract says that journeymen and apprentices shall be required to furnish small hand tools. However, pipe threading or cutting tools, vises, and welding torches are not considered hand tools.

Lumber Merchandisers Study Conditioning Problems In Arizona; Offer Advice to All

PHOENIX, Ariz.—The Lumber Merchandisers Association has begun annual summer studies of cooling problems in the Valley.

Jack Jordan, executive manager of the group, says the analyses of the problems look toward corrective measures in the structures surveyed.

Suggestions offered by Jordan

to decrease the heat load on a building might be as simple as shading a wall, or painting it white to reflect heat. Or the solution might be gained only by adding more insulation to walls or ceilings, or installing heat-absorbing glass.

The cost of any alterations is regained in lower operating cost of refrigeration equipment, Jordan explained. Increased comfort is a bonus feature.

On one large residence now under study, Jordan said the power bills last summer ran as high as \$126 monthly and the house was not as cool as the owners expected it should be with a 7½-ton plant.

If Jordan's recommendations for reducing heat load are followed, he claims the home will be easily kept within the comfort range, and that power costs will drop 30%. Jordan expects to cut 30% from the \$300 bill of a commercial building also under study now.

The chief engineer of a Valley air conditioning firm lends his knowledge to the studies without charge in the interests of the air conditioning industry.

Airtemp Engineering Put In Wyckoff's Hands

DAYTON—Paul W. Wyckoff, chief engineer, will assume direction of all engineering activities for the

Airtemp Div. of Chrysler Corp., C. E. Buchholzer, president of Airtemp, announced.

Wyckoff, who is a graduate of Wayne university and the Uni-

P. W. Wyckoff versity of Michigan, joined Chrysler Corp. in 1939 as a graduate student in the Chrysler Institute of Engineering.

Upon graduation from the institute, Wyckoff joined the Chrysler Central Engineering Fuel Systems Laboratory as a project engineer on various defense development projects. He began his affiliation with Airtemp in 1946 as director of the company's engineering laboratory.

Dunham-Bush Declares 15¢ Common Dividend

WEST HARTFORD, Conn.—At a regular meeting held recently, the board of directors of Dunham-Bush, Inc. declared the following dividends:

Common stock—15 cents per share, payable June 15, 1957 to stockholders of record as of May 31, 1957.

5% Cumulative preferred stock—\$1.25 per share, payable June 15, 1957.

helps Temprite trim water-cooler costs

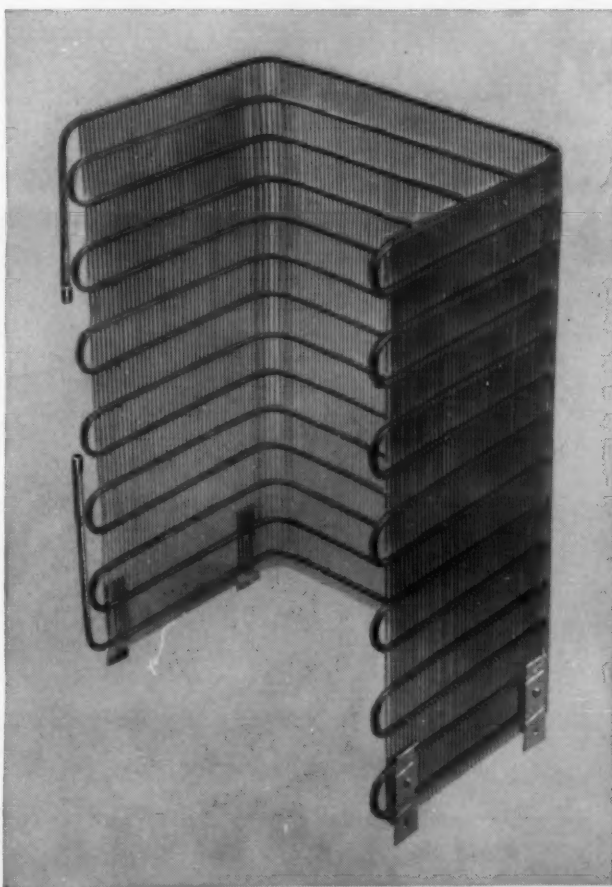
New wire-and-tube assembly is easy and economical to fabricate from strong, ductile Bundyweld Tubing

The static condenser in Temprite Products Corporation's new water coolers cuts manufacturing costs because it eliminates the need for a fan and electric motor. But this wire-and-tube design must be made from an economical tubing that's strong, leak-proof, and easy to fabricate. That's why Temprite uses only Bundyweld® Tubing.

Bundyweld is unmatched for high tensile strength, bursting strength, and resistance to vibration fatigue, because it's double-walled from a single steel strip. This exclusive process (shown below, at left) has made Bundyweld the safety standard of the refrigeration industry. In tubing, Bundyweld means dependability: it's leakproof by test.

But there's even more for you from Bundy®. Need fabricated parts? Bundy's complete, modern fabrication shop will produce them to your specifications; deliver them on schedule and ready to use. Want help with a knotty tubing problem? Bundy's engineering staff thrives on tubing puzzles; and their skills are yours for the asking.

If you make evaporators, compressors, or condensers, you can profit from a word with Bundy. Call, write, or wire us today!



This wire-and-tube condenser is fabricated from serpentine coils of Bundyweld Tubing by Wall-Wire Products Corporation, Newport, Tenn.; shipped flat to Temprite for shaping and assembly. Strong, ductile Bundyweld is available in continuous lengths up to 2,000 ft., or fabricated to your specifications.

BUNDY TUBING COMPANY, DETROIT 14, MICHIGAN

WORLD'S LARGEST PRODUCER OF SMALL-DIAMETER TUBING • AFFILIATED PLANTS IN AUSTRALIA, ENGLAND, FRANCE, GERMANY, AND ITALY

There's no real substitute for

BUNDYWELD® TUBING

Bundy Tubing Distributors and Representatives: Massachusetts: Austin-Hastings Co., Inc., 226 Binney Street, Cambridge 42 • Pennsylvania: Ruten & Co., 1 Bala Ave., Bala-Cynwyd • Midwest: Lapham-Hickey Steel Corp., 3333 W. 47th Place, Chicago 32, Ill. • South: Peirson-Deakins Co., 823-824 Chattanooga Bank Bldg., Chattanooga 2, Tenn. Southwest: Vinson Steel & Aluminum Co., 4606 Singleton Blvd., Dallas, Texas • Northwest: Eagle Metals Co., 4755 First Avenue, South, Seattle 4, Wash. • Far West: Pacific Metals Co., Ltd., 2187 S. Garfield, Los Angeles 22, Calif. • Pacific Metals Co., Ltd., 3100 19th Street, San Francisco 10, Calif.

Bundyweld nickel and Monel tubing are sold by distributors of nickel and nickel alloys in principal cities.

For more information about products advertised on this page use Information Center, page 26.

Inside Dope

By GEORGE
F. TAUBENECK

(Concluded from Page 1, Col. 1)
every nine cars sold will be air conditioned.

He further forecast that 25% of all autos produced at that time will have factory-installed air conditioning units, compared to the 4% of all new cars so equipped last year.

There are a few clouds in the silver lining, however.

In a recently-finished test of 29 cars selected from among 12 different 1956 models, the Society of Automotive Engineers found that, while air conditioning makes motoring far more comfortable for passengers, it is tough on engines, radiators, and other equipment.

Crowded space under the hood prevents adequate ventilation and causes vapor-lock stalling

and increased fuel system maintenance. Four-barreled carburetors help to some extent, but vapor-lock problems still exist.

With the windows closed, researchers rode in an air conditioned Cadillac on the New Jersey, Pennsylvania, and Ohio turnpikes from Atlantic City to Detroit. In sharp contrast to trips made previously in non-air conditioned cars, they did not experience the usual rush of noisy incoming air at the high speeds permitted on the turnpikes.

Conversation took place in a normal voice and radio-playing was at living room level, according to the SAE report.

So You Think You Got Troubles Dept.

Maintaining a harem may not be a bowl of cherries (and if this be a mixed metaphor, please feel free to make the most of it).

King Ibn Saud of Saudi Arabia

pays the bills for approximately 90 women—three wives and 85 or so concubines. In the atmosphere of luxurious boredom which surrounds these, er, ladies, envy is a strong emotion.

It is reported that one of them spotted a glass-front supermarket-type refrigerator advertised in a magazine and ordered one (the glass-front refrigerator, not the magazine).

Her 80-odd rivals then clamored to have their refrigerators replaced by the glass-front type. Court chamberlain vetoed these purchases as an unnecessary and ridiculous expense. Whereupon two of the gals summoned their slaves—and ordered the latter to unplug the old refrigerators and heave them out a third story window into the court yard.

Glass-front refrigerators immediately were ordered to supply the demand, even though none of them ever contains anything more vital than bottles

of drinking water.

This story has a moral which the average husband should recognize. And it should interrupt his daydreams of a tax-exempt harem, also.

Air Conditioning Next

From a reliable source comes this tale of a fur salesman who called on an Arab chief.

The sheik had never heard of mink, but the salesman assured him that all fashionable ladies looked upon the mink coat as a must.

In spite of prevailing year-round temperatures around 100° F., the salesman came away with an order for 14 coats.

Two weeks later he was back and made another sale. This time it was room air conditioners for the minked harem.

Sears Branches Out

Following want-ad appeared

in the *Detroit Free Press*:

FENCING. Opening for aggressive salesman. Sears Roebuck & Co.

We wonder: Are pads and helmets supplied customers?

Thought for Consumers Goods Makers

Almost every package you buy in a supermarket carries, on one or two sides, selling messages for companion products put out by the same producer.

Wouldn't that be a good idea for manufacturers of "full lines" of air conditioning, refrigeration, and home appliances?

'Twould be easy to paste a label containing a selling message for companion products (in the same manufacturer's "family") on any consumer durable item. Hm-m-m?

Interim Notes

Sometimes a neighbor, whom we have disliked for a life-time for his arrogance and conceit, lets fall a single commonplace remark that shows us another side, another man, really; a man uncertain, and puzzled and in the dark like ourselves.—WILLA CATHER.

You say to a child, "Suppose you call the tail of a (four-legged) cow a leg, how many legs will the cow then have?" If the child replies immediately, "Five," encourage him to take mathematics.

If he observes that it doesn't make any difference what you call a tail, "It is still a tail," suggest science as a career.

If he hems and haws and finally comes up with an answer like seven or eight, plead with him not to go into science or engineering.

If, however, with a twinkle in his eye he says that the question is a good one, mentally note that he will become an administrator. — BERNARD J. SEEGER.

Never Underestimate Women

A continuing revolution in women's employment—which may mean 33,600,000 feminine job-holders by 1957—is in progress. About 28,000,000 women now are in the U. S. labor force.

At the turn of the century more than half of our adult women never had worked for money—that is, they hadn't been put on business payrolls.

In the near future at least nine out of every 10 women are likely to work outside the home in the course of their lives.

Two-fifths of all females age 14 and over—a total of about 82 million women—now are at work for pay (in business, we mean). Women are expected to account for about half of the 10 million additional workers which will be needed by 1965.

Today's school girls may expect to spend 25 or more years in paid work outside the home. Incidentally:

Three out of every 10 married women now are working, as are nearly two out of every five mothers whose children are of school age. Six out of every 10 women workers are married, and five out of 10 are over 40.

Double crimp

Double crimp keeps DRYSEAL tube whistle-clean, bone-dry. Crimps are tube-size, too; slip easily through fittings. Dead-soft DRYSEAL means finger-easy, no-tool bending. Try it on your next job. Sizes $\frac{1}{8}$ " to $\frac{3}{4}$ ".



You'll like the job size,
50 foot one-coil pack.



Revere Dryseal

COPPER REFRIGERATION TUBE

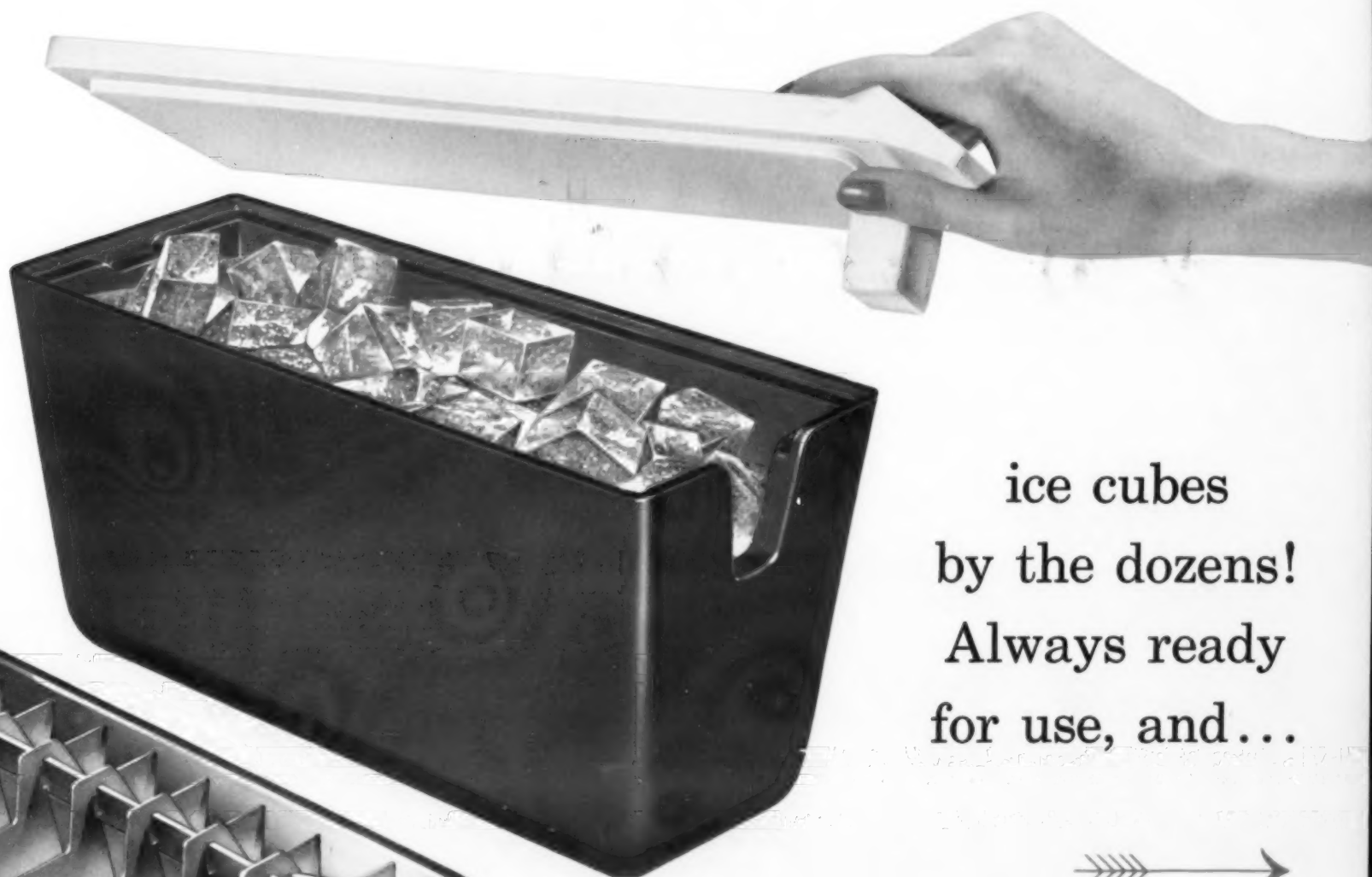
You'll find a Revere Distributor close at hand.

REVERE COPPER AND BRASS INCORPORATED, founded in 1801 by Paul Revere

For more information about products advertised on this page use Information Center, page 26.

two things
happen
when you pull
this lever

*there's a downpour of ice cubes
when you pull the lever of this exciting
new Inland "MAGIC-TOUCH" Handi-Stor ice cube tray*



ice cubes
by the dozens!
Always ready
for use, and...



a cloudburst of
new prospects
 for you



*Inland Pre-Sells
 Refrigerator Customers
 right in their own homes*

Yes, we said **Refrigerator Customers**. The "Magic-Touch" of Inland's colorful national advertising in selected mass-circulation magazines, such as The Saturday Evening Post and Better Homes and Gardens, lures millions of customers to the logical sales outlet... your store. Be sure you have a supply of Handi-Stor Trays in stock... millions of ice cube trays in older refrigerators need replacing. Make Inland advertising pay off in new refrigerator sales **then and there**. Make certain your refrigerators are shipped equipped with the new "Magic-Touch" Handi-Stor Ice Cube Tray and Insulated Ice Chest... by Inland.



*Out they pop!
 Down they drop!*
Ice cubes by the trayful!



INLAND *"Magic Touch"*
HANDI-STOR ICE CUBE TRAY

Here's new ice-cube magic! And what convenience! Just put the Handi-Stor Tray in place, pull down on the "Magic Touch" lever and... presto! A trayful of hard, dry ice cubes drops into the Insulated Ice Chest. No muss. No fuss. And your hands stay dry! Trayfuls of ice cubes are stored—always ready to use. And the Ice Chest slides out for use at counter or table. "Magic Touch" Handi-Stor Trays come in 4 gay colors of gold, bronze, blue or aluminum.

Be sure your new refrigerator is equipped with Inland "Magic Touch" Handi-Stor Ice Cube Trays. Ask your dealer for them.



INLAND MANUFACTURING DIVISION
 General Motors Corporation, Dayton, Ohio

'Hydronics' May Be the Name

Fluid Heat Industry Grows with Larger, Better Homes; Introduces 'Compatible' Cooling, Baseboard Radiators

ABSECON, N. J.—A forecast of rapid expansion for the hot water heating-chilled water cooling industry and a recommendation for a new industry name were made here at the 42nd annual meeting of the Institute of Boiler & Radiator Manufacturers.

TECHNICAL ADVANCES OPEN DOOR OF QUALITY

Robert E. Ferry, IBR general manager, attributed the industry's recent "unusual growth" in part to the trend to larger and better homes. Technical advances through industry research and marketing activities also have "opened the door" to installation of higher quality heating and cooling in millions of smaller homes, Ferry said.

The 100-year-old industry, which last year "dramatically increased its share of the residential heating market despite a decline in housing" is considering adoption of the name "hydronics" to keep pace with and reflect advances in its methods.

Ferry said the term "hydronics" has been proposed by an industry committee to encompass all auxiliary functions performed by water-fed home comfort systems, including hot water heating, chilled water cooling, hot water faucet supply, snow melting, zone temperature control, etc.

INVESTIGATE, IMPROVE PRODUCT DESIGN

In recent years IBR has widened its research and marketing activities, developing cooperative programs to investigate and improve product design and technical education.

Some of the industry's programs in the recent past have produced such innovations as low-cost "compatible" cooling for hot water heated homes, inconspicuous baseboard heating radiators, smaller but more powerful heating boilers and other equipment designed to fit

the needs of modern homes.

Ferry also reported that construction of the new IBR Test Laboratory in Urbana, Ill., had been completed. The new laboratory, now fully equipped and staffed, was built at a cost of about \$75,000.

Its purpose, Ferry said, is to supply supplementary and check list information on baseboard radiation which is to carry IBR

Ratings. Tests for these "output" ratings are first conducted by the manufacturer in his own laboratory. Test data is compared with results of check testing at the IBR Laboratory before IBR Ratings are awarded.

Check testing of baseboard began in June. Formal opening will be observed Sept. 10-11 with a symposium on cooling.

IBR's regular heating-cooling

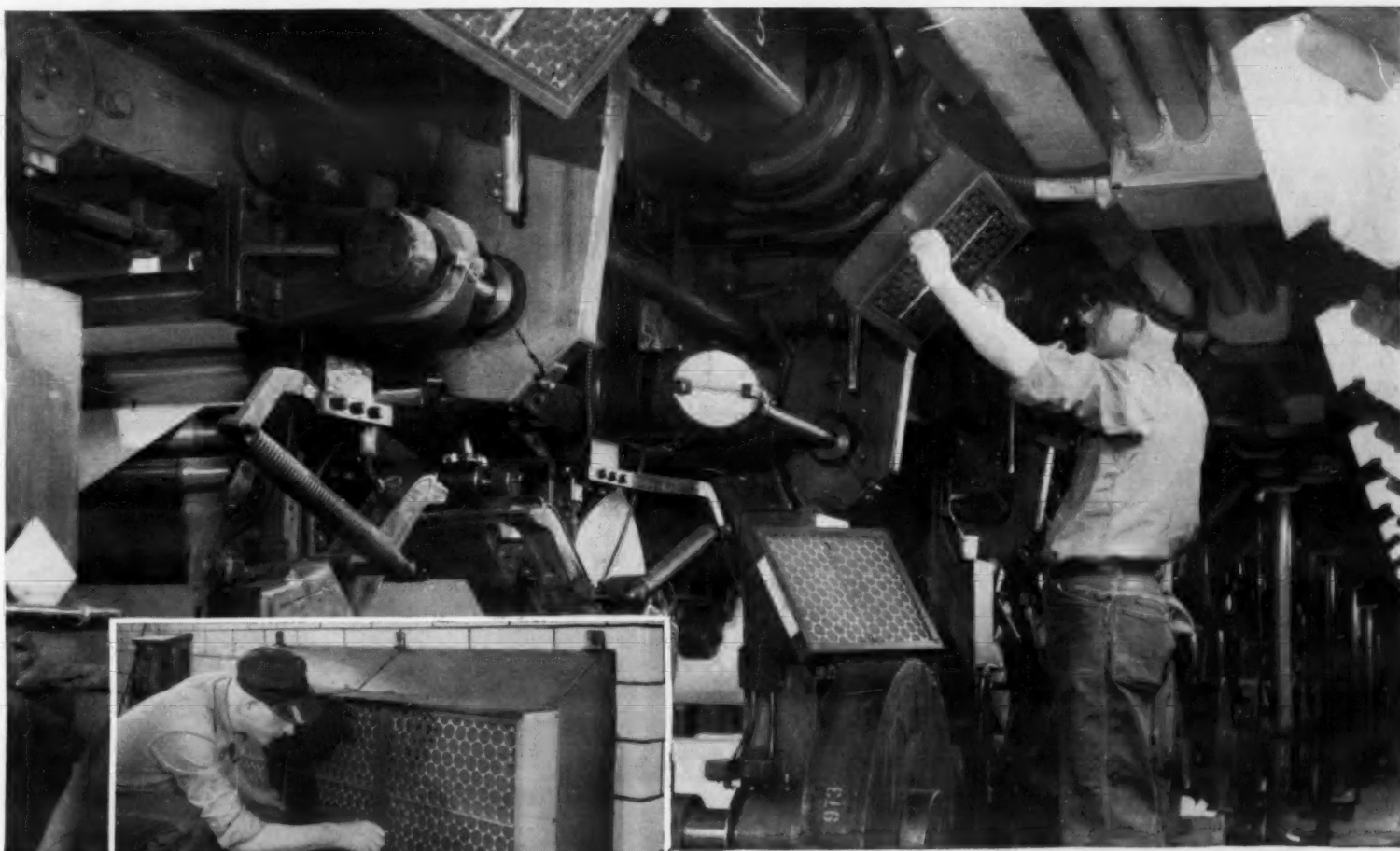
research program, conducted in cooperation with the University of Illinois, last year included new studies in chilled water cooling, radiant floor panel heating, and snow melting.

In one test, researchers found that heavy carpeting and padding reduce the flow of heat from heating coils which are buried in the floor. Higher water temperatures are recommended when carpeting is to be placed over floor coils. Coils in walls or ceiling, instead of in the floor, may also be more efficient when carpeting is used.

IBR officers elected for the 1957-58 term are:

T. B. Focke (National-U.S. Radiator Corp.), chairman; V. A. Good (Burnham Corp.), vice chairman; and R. E. Ferry, treasurer.

The IBR executive committee includes T. B. Focke, V. A. Good, O. Desmond (Modine Mfg. Co.), W. A. Burbine (Crane Co.), J. J. Nesbitt Jr. (John J. Nesbitt, Inc.), R. G. Pinkerton (Peerless Heater Co.), D. J. Quinn (Amer.-Standard), M. C. Reed (Dunkirk Radiator Corp.), Carl Sahler (Thatcher Furnace Co.), S. K. Smith (H. B. Smith Co., Inc.), W. Webster (Warren Webster & Co.), E. R. Westphal (Weil-McLain Co.).



Glasfloss Air Filters prevent ink mist and paper dust from entering motors on these high speed presses, reduce motor maintenance, and fire hazard.

Building damage and fire hazard from ink condensation and penetration is now greatly reduced with Glasfloss Air Filters. Disposable filters are replaced regularly.

Glasfloss* Air Filters lessen press maintenance, reduce ink mist hazard at Rochester Times Union

The Rochester Times Union, Rochester, N.Y., had two serious problems common to most newspaper plants, according to Mr. Arnold J. Cunningham, the newspaper's building superintendent.

1. Ink mist and paper dust from 15 press-unit drive motor intakes required the cleaning of internal motor parts every three months. This caused production delays, and thorough cleaning was not always possible.

Solution: Glasfloss Fiber Glass Air Filters were installed on special frames. Now motor cleaning is done only once every six to eight months, and less time is required. Light vacuuming of filter faces daily allows maximum air intake. Motor operating temperatures are lower and a fire hazard is reduced.

2. Ink condensing inside the air ducts created an extreme fire hazard and ink-spot damage to ceilings and equipment. Paper dust caused extreme surface loading and

this impeded the passage of ink mist through the filter. **Solution:** After extensive testing of many filtering devices, Glasfloss Filters proved to be the most satisfactory. Through regular rotation and replacement of filters, the fire hazard has been greatly reduced. Building damage from ink condensation and penetration is very slight. Filtering costs are at a minimum.

GLASFLOSS AIR FILTERS CAN HELP YOU, TOO!

Pittsburgh Glasfloss Air Filters are made from fine, soft fiber glass which provides a greater, more efficient dirt-and-dust-collecting area. Glasfloss Filters are soft and easy to handle; this fiber glass will not splinter or pierce the skin.

Get top results with Glasfloss Air Filters. Write for the name of your nearest Glasfloss distributor. Pittsburgh Plate Glass Company, Fiber Glass Division, One Gateway Center, Pittsburgh 22, Pennsylvania.

GLASFLOSS FILTERS ARE A PRODUCT OF THE FIBER GLASS DIVISION OF PITTSBURGH PLATE GLASS COMPANY

Sales Offices are located in the following cities: Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh and St. Louis



PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS

PITTSBURGH PLATE GLASS COMPANY

Saving Grace

Calendars Help Dealers Recall Promotions Due

COLUMBUS, Ohio — Armstrong Furnace Co. has found that sending a small wall calendar to its dealers each month is "an excellent way to promote sales promotions."

The calendars are designed to help the dealer remember the promotional activities scheduled for the month. Dealers are urged to hang the calendar in a conspicuous place "so they can see in a glance what is happening."

Only the important promotional dates are filled in leaving open spaces for the dealer to insert "little reminders" for himself.

In addition to promotional activities, various schools and their starting dates are mentioned. Sales reminders are usually put at the beginning and ending of each month.

The color of the calendar varies each month and the dates are overprinted in a deeper hue.

Offers Restaurant Owners

3 Check Lists Outlining What To Do To Care for Condensers, Drains, Fans, Defrosting, Compressor Motors, Doors, Walls

CHICAGO—A refrigeration maintenance program designed to tell the restaurant owner what he can do himself to keep his refrigerators and freezers in good running order was outlined at the recent National Restaurant Exposition here.

The program was spelled out in a technical bulletin (No. 201) distributed at the exposition. It was prepared by the National Restaurant Association food and equipment research department in cooperation with the Tyler Refrigeration Corp.

The bulletin was written jointly by Doyle Carpenter of Tyler and John Ruffley, associate director of research for the NRA.

"The refrigerator is a complex

and highly intricate mechanism which requires the skills of an expert for the adjustment and repair of certain critical components," the bulletin warned right at the start.

'Call on Reputable Serviceman'

"If these parts of the refrigerator or freezer are in need of repairs, the operator should not hesitate to call upon a reputable serviceman, the manufacturer, or the refrigerator engineering organization with which his company has a contract," it advised.

"Don't try to save pennies by letting an inexperienced 'handyman' tinker with adjustments or parts requiring the services of a

trained refrigerator man.

"But, do get your refrigerator serviceman or other properly qualified person to advise you as to what steps your employees can take for regular and routine maintenance, thus calling the expert only for periodic check-ups or necessary emergencies."

Recommends Schedule

The four-page folder "highly recommended" a schedule of systematic inspection, cleaning, and lubrication of the refrigeration system. It suggested a check with the manufacturer or distributor of equipment for recommendations on maintenance by restaurant employees and by refrigerator service company personnel.

PREVENTIVE MAINTENANCE CHECKLIST

1. Oil motors in refrigeration units according to manufacturers instructions.
2. Clean condensers in refrigerator motors, inspect weekly.
3. Inspect belts to see that they are not frayed or badly worn.
4. Clean interior of cabinet at least once weekly.
5. Clean drains thoroughly and carefully.
6. Check possible accumulation of frost. Defrost unit when necessary.
7. Check and inspect once a month: door gaskets, doors, inside walls (for frost), hardware.
8. Don't overload the cabinet.
9. Clean exteriors of cabinets at least once weekly.

It emphasized that the greatest need for a check-up on refrigeration equipment is in the spring, as the heaviest demands on the equipment occur during the summer months.

The bulletin then outlined what the restaurant employee can do to take care of condensers, drains, fans, defrosting, compressor motors, doors, and inside walls. It finished with suggestions on cleaning baked enamel and stainless steel finishes.

The three check lists appearing with this article are also included in the bulletin.

'Most Frequent Fault'

"The most frequent cause of trouble resulting in refrigeration stoppage, poor temperatures, or constant running of the unit, is a dirty condenser," the bulletin said.

"Depending upon dust and lint conditions, it is possible for the average air-cooled condenser to accumulate enough foreign matter to adversely affect efficient operation in one week."

It suggested weekly inspections and cleaning whenever necessary with a vacuum cleaner, stiff brush, or blowing with compressed air.

Where To Place Refrigerator

To get needed free air flow to carry heat away, it advised placing the refrigerator cabinet no closer than 4 in. to a wall. In confined areas, a water or air-water cooled condenser was suggested.

Water-cooled condensers should be protected against temperatures below 32° F. to prevent freezing, it said.

"Poor drain cleaning can result in corrosion, foul odors, poor refrigeration, generally unsanitary conditions, and complete destruction of the insulation material in the refrigerator," said the folder.

"Drains should be thoroughly and carefully cleaned each time the refrigerator is cleaned, and finally flushed with a neutralizing solution such as a soda solution."

"Fan failure can cause loss of cold temperatures. When checking for cause of warm temperatures, be sure fans are operating properly. Air flow should be upward through the coil."

"Defrost kitchen refrigerators every third or fourth day. Defrost freezers when frost builds up to approximately 1/4 in. unless they defrost automatically."

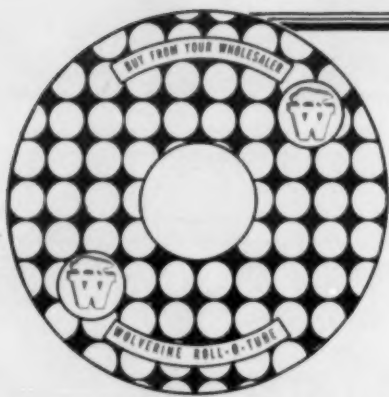
"Turn off power and allow ice to melt off coil. Don't use ice picks or other sharp tools to speed defrosting. There is danger of piercing coils which are difficult and costly to repair."

"Heavy coating of ice and frost on fin or plate-type evaporators should be prevented because it acts like insulation and

(Concluded on next page)

how about an order?

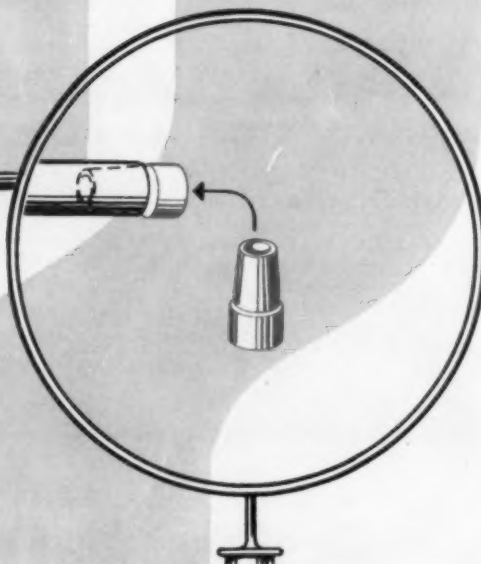
Illustrated below, Mr. Wholesaler, are two product features designed by Wolverine Tube to help you keep your refrigeration customers happy—and coming back. Each feature is the result of Tubemanship—has back of it all the experience, research and sound engineering that has made Wolverine a leader in the tubing industry. You can recommend and sell Wolverine tubing with the sure knowledge that it will stand up—not fall down—on the job. That's why we're asking you for your order—today!



WOLVERINE ROLL-O-TUBE®

Here is rigidly quality-controlled refrigeration tube in the round carton that can be used as a reel, rolled like a hoop and easily carried by its convenient center hole. Unused tube always remains in the sturdy Roll-O-Tube carton protected against damage and dirt until needed again. Wolverine refrigeration tube is:

- Plug drawn to insure a mirror-like inside finish
- Annealed in a reducing atmosphere to insure a bright surface
- Dehydrated for moisture removal
- Thoroughly inspected on both inside and outside
- Sample tested for grain size
- Consistent in temper
- Easy to bend



This is Wolverine's exclusive tube seal—a plastic plug that:

- Gives positive protection—seals out moisture and dirt
- Is easy to insert and withdraw from the tube
- Can be used again and again
- Permits the tube to be easily inserted through partitions, etc. (its outside diameter is the same as the tube!)



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CHECK THESE IF COMPRESSOR WON'T START

- | | |
|---|---------------------------|
| 1. Main switch may be off. | 5. Broken or loose belt. |
| 2. Fuse may be blown out. | 6. Motor may need oiling. |
| 3. Lead-in cord may be pulled out of electrical receptacle. | 7. Frozen water lines. |
| 4. Water may be turned off. | 8. Loose flywheel. |

Call your serviceman if repair is needed.

Caring for Commercial Refrigeration--

(Concluded from preceding page) slows up cooling and overworks the compressor.

The bulletin emphasized that unless coils are kept free of excessive ice or frost at all times, reduced efficiency will result.

Prevent Burnouts

With non-hermetic type compressor motors, Carpenter and Ruffly told restaurant operators to lubricate according to the manufacturer's instructions to prevent burnouts. Too much oil floods bearings and may cause a slowing of operation, they said.

"Blow the dust and dirt from the motor and dynamo winding each month," the bulletin advised. "Be sure the current is disconnected first, to prevent possible injury while cleaning. Use automobile pump or bellows. Tighten any loose nuts or bolts which hold motor to base.

"If your refrigerator or freezer is equipped with a belt-driven compressor," the bulletin continued, "keep belts free of oil, grease, and water.

"Follow maker's instructions in taking care of belts. V-belts do not need dressing or finish of any kind. Loose or slipping belts can burn the belt and slow operation of the compressor, increasing your electric bill.

"If belt is greasy or wet, turn off the current and clean. To tighten belts, check automatic belt adjustment to see if spring and unit are working. If out of order call electrician or motor supplier.

'Let Serviceman Adjust Belt'

"On a compressor without automatic belt adjustment it is best to call your local serviceman. A belt works best when it can be pushed down 1/2 in. below level with the gentle pressure of two fingers.

"For new belts or replacements, call your serviceman. He is best qualified to determine correct adjustments and tensions and selections of the correct belts to be used."

The bulletin suggested that the employee check immediately when a fuse blows. It means trouble. If you can't find the trouble, call the electrician, it advises.

"If the motor is running too hot, it's carrying too heavy a load or it is not properly lubricated," it continued. "Have your electrician make a thorough inspection.

"If the motor 'chatters' when starting, bearings are probably worn.

"Continuous or overlong operation of compressor means leak of refrigerant, air in refrigerant system, and/or dirty condensers. If cause is not found and remedied, call your serviceman."

Monthly check of door gaskets for air leakage and walls for frosting resulting from soaked

or bad wall insulation was recommended.

"Check sagging doors for worn hinges," it said. "In order to get proper door alignment with any cabinet, it is necessary that the cabinet be leveled.

"There is also a possibility that the refrigerator must be shimmed so that it is slightly out of level in order to get perfect door alignment."

The bulletin also pointed out that a broken door latch is dangerous, particularly on a

walk-in cooler where people could be trapped inside.

For good refrigerator efficiency, Carpenter and Ruffly stressed, don't overload the cabinet.

'Hold Perishables To Specifications'

"Hold perishable inventory down to the specified capacity of the cabinet," they urged. "Trying to cram food into every cubic inch of the box overloads the compressor and keeps it running constantly.

"It may be able to get the temperature down to the proper level. Overloading prevents proper air circulation in the cabinet and leads to stagnation, dampness, and mold.

"In the case of a freezer, it will lead to higher temperatures and possible spoilage of the frozen foods due to defrosting."

To clean baked enamel finishes, the bulletin advocated a

mild soap or detergent, not an abrasive cleanser that would scratch the surface and spoil the finish.

On stainless steel finishes, use stainless steel wool or sponge. Never use ordinary steel wool or steel brushes. Particles of steel may become imbedded in the stainless steel surface. Rusting of these particles will eventually appear as stains.

Cleaners

For tightly adhering deposits of baked-in splatter, oil, grease, weather stains, dyes, or other light discolorations, use a cleanser recommended by the dealer as most desirable for the stainless steel finish you have.

Heat tint or heavy discoloration can be removed by a commercial remover, but any of them will usually scratch stainless steel surfaces, the bulletin said. This, however, is necessary in removing heat tint by hand.

A fibrous material may be

WHEN TEMPERATURE RISES — CHECK FOLLOWING

1. Condenser needs cleaning?
2. Cooling coil needs defrosting?
3. Air circulation blocked by dirt or piled-up boxes?
4. Temporary overload on equipment?

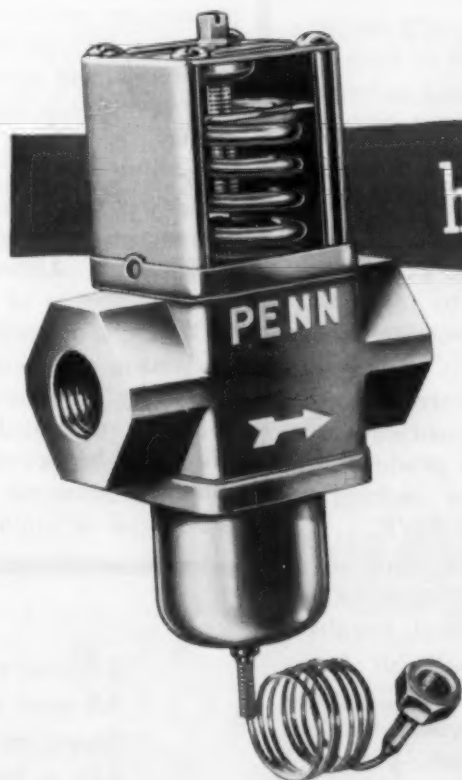
Don't try to change the control setting. If none of the above prove to be cause, call your serviceman.

used in place of metal sponges or cloth pads for applying cleansers and polishes.

For very heavy water deposits, the bulletin said, a nitric acid solution (15 to 20% by volume) is very efficient. Acid treatment should be followed by a thorough water rinse.

"Only personnel thoroughly familiar with safety precautions should handle or use acid solutions," the bulletin stressed.

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"Put it before them briefly so they will read it, clearly so they will understand it, forcibly so they will appreciate it, picturesquely so they will remember it, and above all accurately so they will be guided by its light."—Joseph Pulitzer.

Paul B. Reed

A GREAT MAN has gone to his reward. The judgment of history equates a man's Greatness with his unselfishness and helpfulness to his fellow-men. Paul Reed qualifies on all counts. A brilliant man who could have gained riches and power, he chose instead to be a selfless, dedicated educator of the "working men" in our industry.

There are many things that could be written about Paul Reed. He was educational director of RSES, and his column "Refrigeration Problems and Their Solution," ran in AIR CONDITIONING & REFRIGERATION NEWS for more than 15 years. He was one of the real pioneers in the industry, and must have been one of the first service engineers. He perhaps knew more people in the industry than anyone in its history.

But Paul Reed's important legacy was a bit of philosophy which he never ceased to pound home in formal meetings, or in individual conversations with the many who revered him. It was this:

"Never stop learning."

Paul had only scorn for those who believed they knew all there was to know—or needed to know—about their job, and their industry. He told such people "when you stop learning, there's only one way to go—backward." Although hospitalized during the final painful months of his life, he continued his efforts to further the knowledge and skills of servicemen.

Within the past few weeks he completed his work on two more volumes of his "Refrigeration Problems" manuals, compiled from his writings in the NEWS. We shall be proud to publish them. And the entire industry joins us in saying we knew him, and were privileged to count him as a friend.

All your strength is in your union
All your danger in discord;
Therefore be at peace henceforward
And as brothers live together.

—HENRY WADSWORTH LONGFELLOW

They'll
Do It
Every
Time

by

Jimmy
Hatlo



Commercial Refrigeration Sales Techniques Need Upspringing

THIS WEEK let's analyze the *making* of a sale, and the neglected mechanics of that art, in terms of commercial refrigeration. Obviously, in this inquiry, we can get into deep water—which needs to be explored and charted. Ask any commercial refrigeration manufacturer who has struggled to author or authorize a sales manual!

Before we dive into deep-down psychological stuff, it might be wise to take a gander at an effectively simple sales technique employed by a few highly successful commercial refrigeration dealers. Can we accomplish so formidable a feat as to present an all-in-all definition of THE best technique in a single sentence? Here's a try:

All methods of selling a high-priced item—like a frozen foods cabinet—should be designed to *earn confidence* on the part of a prospective buyer.

Normally, a big commercial refrigeration sale isn't tied up and delivered for weeks, months, or even years after the original approach by a promotion-minded manufacturer. Moreover, developing confidence in your products (and in yourself as a salesman) amongst open-all-night grocers (or chain store purchasing agents) takes a lot of time, usually.

Sure, you can point to "impulse sales" of commercial refrigeration—particularly when a local independent foodstore has been scared by chain-type competitors. And you can point out an occasional one-in-a-thousand personal salesman who does sign a substantial order for multiple-unit installations on his first call. Both these situations are comparatively rare, however.

Most often the sale of a relatively high-priced item, like a display case or florist refrigerator, results from an accumulation of favorable impressions on the part of a prospect. These impressions are compounded from advertising first, then from warmings-up to a personable and helpful commercial refrigeration salesman.

Wrapping up the final order is an emotional decision, thereupon, as much as it is a practical business deal. And lots of hard work and good personal interviews must precede it. So, whatever you do, Mr. Commercial Refrigeration Dealer, acquire friends. Every personal call, every letter you write, each new acquaintance you interest, and all types of personal publicity are valuable to salesmen of such relatively expensive equipment as low temperature

supermarket (or Ma-and-Pa store) commercial refrigerators.

Friends who become customers turn up in the oddest places: a fraternity brother of the purchasing agent; the wife of a grocer met on a train; a clerk down-the-line you've befriended; a lad who used to mow your lawn and who now is a buyer. Never can tell who or when. Random contacts pay off handsomely at unexpected moments.

Small intimacies like luncheons, greeting cards, and phone calls help make intimate friends, too. And good friends sway profitable transactions. You see, people like to do business with people whom they like and trust. Here are three ways to create confidence and retain friends when you're selling commercial refrigeration products:

(1) Be honest, straightforward, and friendly.

(2) Be helpful in analyzing business trends and providing useful bits of information to those whom you'd like to capture as long-term customers.

(3) Be ingenious in showing new prospects (and old customers) how to make better use of your products and services.

There are many other methods of selling competitive commercial refrigeration equipment, of course, but:

Follow those rules, and you'll build a satisfied clientele over a period of time—*IF* people like you instinctively as a salesman, and trust your manufacturer as a deliverer of QUALITY.

Salesmen WHO earn the confidence of commercial refrigeration buyers are able to fend off the challenges of run-of-the-mill competitors. The latter try to take business away from them by pedestrian means (such as price cuts).

Most important, the instinctive commercial refrigerator salesman is positively sure that every prospect needs his product, and that competing products are lacking in qualities HIS FRIENDS DESERVE.

He has convinced himself that he is offering absolutely the best product or service to do the job his client requires.

Really good salesmen don't hit home runs unless they harbor that Faith. To win confidence, you must have it yourself. And to sell commercial refrigeration, you need every whit of self-confidence you can muster.

It's a tough league, but rewarding.

Refrigeration Speeds Handling of Chlorine Gas, Protects Bleach Against Breakup

MILWAUKEE—An unusual dual use of refrigeration in industry is an application at the Hydrite Chemical Co. here.

Use of a Heat-X package chiller and liquid cooler reportedly reduces from 24 hours to 7½ hours the time required to unload a tank car of chlorine. Separate circuit use of the package chiller also protects tanks of commercial caustic bleach from breakup.

Chlorine is piped directly from incoming tank cars through the liquid cooler at the station where the cylinders are filled. This liquid cooler has as the chilling medium glycol at 15° F. furnished from a remotely located Heat-X package chiller.

Construction of the liquid cooler—separate refrigeration and liquid circuits cast in solid blocks of aluminum—assures high "hold-over" capacity and guards against possibility of damage from freeze-up, it was stated.

Glycol cooled to 15° F. in the package chiller is also piped (through a separate circuit) to the tank where commercial caustic bleach is prepared. Heat exchangers on a separate caustic bleach circulating system keep the bleach cool, preventing the breakdown of sodium hypochlorite, the desired end-product.

The 7½-ton capacity Heat-X

chiller features patented "Inner-Fin" construction.

Cooperating in solving the unusual problems presented by this company's needs were Ed Wex, plant engineer at Hydrite Chemical; Arthur Pope of York-Wagner Co., Milwaukee refrigeration contractor; Harry Jessel of Gustave A. Larson Co., Heat-X wholesaler in Milwaukee; and Charles Zakorian, Heat-X sales engineer.

To Condition Church

BATESVILLE, Ark.—Work is progressing on the new \$50,000 Church of Christ at Newark, Ark., according to T. W. Cooper, chairman of the building committee. Cooper says the structure will be equipped with central air conditioning.

Ga. Post Office To Get Central System

ATHENS, Ga.—According to Franklin G. Floete, general services administrator in Washington, D. C., a central air conditioning system will be installed at the U. S. Post Office and Courthouse in Athens.

Floete made known the signing of a \$5,900 contract for engineering services necessary to the design of the system. He said it was negotiated by the regional office of the GSA public buildings service in Atlanta with the architectural firm of Funsten & Harrison of Atlanta.

Working drawings and specifications for the project, whose over-all construction cost is estimated at \$114,829, are scheduled for completion by June 15. Bids for installation then will be asked by the GSA, it was stated.

Air Conditioner Pre-Flight Tests Jets

PICTURED is Keco Industries' MA-7 air conditioner, designed and produced for pre-flight testing of jet aircraft. Powered by a Continental "Pacette" engine the equipment produces 84,000 B.t.u.h. of cooling and 225,000 B.t.u.h. heating. Air delivery can be controlled to vary between 10 and 60 lbs./min. against static pressure ranging from 0 to 30 in. water. Equipment was designed to Wright Development Center specifications and is the gasoline-driven version of the MA-8 air conditioner Keco also produces for Air Force use.



Whirlpool Declares Quarterly Dividend of 85 Cents a Share

EVANSVILLE, Ind.—Directors of Whirlpool Corp. recently declared the regular quarterly cash dividends of 85 cents per share on the 4¼% cumulative convertible preferred stock and 35 cents per share on the common stock outstanding, it was announced by Walter G. Seeger, chairman of the board. Both dividends are payable June 10, 1957.

AF Sharp Freezes Planes To Learn Temperature Effects

EGLIN AIR FORCE BASE, Fla.—The Air Force has resorted to "sharp freezing" its airplanes in tests to determine effects of temperature extremes.

A climatic hangar at this station, large enough to accommodate the biggest intercontinental bomber, is equipped for subjecting it to temperatures from -65° to 160° F. Details about the equipment were not disclosed.

AIR CONDITIONING & REFRIGERATION ENGINEER

Graduate engineer, preferably mechanical, with minimum 6 years broad experience in refrigeration and air conditioning. Principal assignment involves development and preparation of major engineering studies pertinent to the technical and economic aspects of present and proposed methods and facilities in Saudi Arabia, including development of processes, design and technical data.

Facilities include large central air conditioning plant with chilled water distribution system through entire communities for residential and industry; Air conditioning totaling 14,000 ton capacity plus 700 of refrigeration for manufacture of ice and storage of commissary supplies. Must be capable of developing and carrying work assignments to completion. Assignment in New York Engineering Office. Occasional field trips required.

Write outlining personal history and work experience. Please include telephone number.

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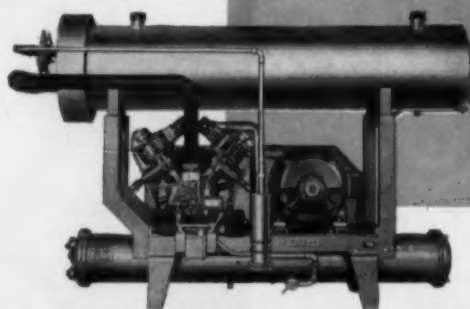
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- Packaged units are easier to install—take up less space.
- Cuts down installation problems and maintenance costs.



up to 100 tons—

With all controls in single panel box for easier access and greater protection! Four step capacity control—unloaded starting available. Particularly desirable where year 'round conditioning of multiple individual rooms is required.

REMEMBER, every Curtis unit is backed by a solid 103 years of experience and skill. Curtis offers a

complete line of air conditioning equipment—nationally advertised to help you sell.

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OUR 103rd YEAR



New Curtis Packaged, Air Cooled, Air Conditioning Units, 3 thru 7½ tons. Residential and commercial applications.



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REFRIGERATION DIVISION

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CM-16

The Women Like It—Part 3

Year-Round Air Conditioning Is Approved Because 'We Can Stay Home In Summer'; 'There is Hardly Any Dust at All'; 'Kids Rest'

MRS. WENGERHOFF: My husband works in Skokie and we live in Skokie, and there wasn't time from the time he left the house, the office being cool all day, to get acclimated to this heat, and he walks into the house and says, "It is still hot here," and starts sneezing.

It just wasn't good. My temper, of course, was up because I was hot all day and I would say, "You are lucky. At least you were cool for eight hours, don't complain." Now everything is fine.

MRS. NORDBERG: We were thinking of putting a back porch on our house. I went to the Village Office to find out about it. We had to be so far away from everything.

Then I said if it is that much trouble, I am not going to bother, so we looked at air conditioning and that ran much cheaper than the porch did so we enjoyed the whole house that way.

MRS. WENGERHOFF: The water coming out of our air conditioning is hot and they told us that if we sprinkled with hot water we would burn up our lawn.

NORRIS: No. I don't think you will at all because the water is 95° when it comes out of the condenser on the water-cooled machine. By the time you have sprinkled, it has dropped in temperature to about 70° before it ever hits the grass. It is better than the cold water out of your faucet.

MRS. MITTY: You can sprinkle all day on flowers and it doesn't burn them. If you sprinkle with cold water, it does.

MISS HAAS: I was curious as to what special problems you ran into, and secondly, if you have had air conditioning installed after living in a house for a while, what difference has it made in your cleaning routine and schedules?

MRS. MITTY: Well, I can look at my drapes after hanging one full year, and only through my own conscience I send them out and have them cleaned. There is hardly any dust at all. Of course, we have storm windows on.

NORRIS: How old was your house when you put air conditioning in it?

MRS. MITTY: Well, we put it in three years ago and the house is eight and a half years old.

NORRIS: So five or six years was the age when you put it in? Did you run into any serious problems and did you have to change your heating system, or was the air conditioning added to your furnace?

MRS. MITTY: The air conditioning was merely added to the furnace. We have a Lennox furnace and air conditioning put in. It didn't take any time at all to install it and we ran into no difficulty.

MRS. WILBOR: Our house is 15 years old, or was when it was installed and with the existing furnace, they have had no trouble at all.

MISS OATES: (Chicago Sun-Times) I am interested in knowing how it affects children, and perhaps like television, it substi-

If you have any connection with the residential air conditioning field, we're of the opinion that the material in this three-part article is virtually **MUST** reading for you.

It consists of excerpts from the verbatim report of the Lennox Women's Forum. Members of this forum comprised housewives who have lived in homes with central residential summer air conditioning. They answered questions and volunteered statements about what they liked and found fault with in complete home comfort cooling.

What these women who have sampled the benefits of air conditioning in the home have to say about it would be worth reading if only for the boost it should offer to the spirits and confidence of those in the business. But it should also prove a most effective sales tool for those who wish to put it to work in that manner.

This is the final instalment of this article.

tutes as a stay-at-home for the barefoot boy, and also whether it changes your vacation plans. Do you have to shoo the children out of the house or do they still go fishing, still run around

outside, play as they used to?

MRS. WINER: I have two teen-agers, plus a seven-year-old. It doesn't stop them from going outside, but it doesn't deter them from coming in when I call them, because by the time they are through playing, they are ready to come into a nice cool house, plus all their friends.

Vacationwise, we don't trek out to the beaches any more because of the sand and bugs and flies. It is so much more pleasant at home.

We don't find it necessary to take the children on picnics so much because we can picnic out in our back yard and have the comfort of home when we are through eating. If the kids want to play outside, we go inside.

MRS. WENGERHOFF: I feel the children after a good night's rest are more willing to do what you want. You feel they should go outside and get the fresh air and play to their heart's content, and when they come in they can



AFTER the close of the formal panel discussion by Lennox Industries, Inc., John W. Norris owners formed a "capsule"

have their normal rest like they do during the winter.

NORRIS: Do they play normally?

MRS. WENGERHOFF: They play outside, but we have to take winter vacations instead of summer vacations because we

Make "add-on" certain with this



Wide selection of switching actions available for use with Honeywell T87 thermostat



Q405A—Heat-Off-Cool Fan On-Auto



Q405B—Heat-Cool Fan On-Auto



Q405C—Heat-Off-Cool



Q405D—Heat-Cool



Q405E—Cool-Auto-Off Fan On-Auto



Q405F—Heat-Off-Cool Fan On-Auto



Q405G—Heat-Off-Cool



Q405H—Cool-Auto-Off (extra pole wired for continuous fan operation)



Q405L—Cool-Off-Fan

Note: Models of Q405A, C & E are available for providing remote reset of cooling system.



Session on residential air conditioning held by president, and four of the Lennox unit panel for newsreel filming.

want to go where it is warmer in the winter.

MR. SCHAU: (*Practical Builder Magazine*) I would like to pursue this matter of installation cost, if I may.

The lady said she had a 15-year-old home and she added a

system to the existing furnace and used the existing duct system.

Would you know what that installation cost was, ma'am?

MRS. NORDBERG: It was under \$2,000 but I am not exactly sure.

MR. SCHAU: And would you know approximately the size of the unit that was installed?

MRS. NORDBERG: It wasn't as large as they thought we should have, I know that. It is only 2 ton, but they say that isn't big enough for our house. Our house was cool anyway, and all I was trying to do was get the humidity down, and it is doing that beautifully.

MR. SCHAU: Is there any other lady who would like to make a statement?

MRS. LINTON: We had a two-story house and it cost \$1,275.

MRS. WENGERHOFF: We had it in our house for a year, and the next year, when we

could afford it, we added the air conditioning. There was no problem, but it was around \$1,000.

NORRIS: For a 3 ton or a 2 ton?

MRS. WENGERHOFF: Two and a half ton, I believe, or 2 ton, but it was less than they said we would need also, but we have a strange situation. We have a split-level home. Our kitchen is down with the recreation room and the family room, which is partially below ground.

We put the summer thermostat up in the bedroom because we went on the supposition that the cold air would fall, and the downstairs being normally cool anyhow, it wouldn't need as much, and it works out just beautifully.

MR. ZEWISKI: I would like to ask the ladies what they feel air conditioning has done to their wardrobe needs?

MRS. MITTY: I find I don't have to do pressing, or sending it out for pressing nearly as

much as I did because the humidity is out of the house and the clothes don't become wrinkled when they are in the closet.

MRS. MITTY: Well, I couldn't say that it has changed the kind of clothes I buy, but I find that when you use your clothes, that they are not worn half a day and then have to go to the cleaners.

MRS. BLEVIT: It changed sleeping apparel because that remains about the same the year round, so it changed that way. Insofar as blankets are concerned, I don't do much changing because the temperature in the house is about the same yearly.

MRS. LINTON: As more and more air conditioning is used, we are going to have to think not only of our own home, but as we stop on our way somewhere else, what temperature we are going to wind up in.

As we were talking with some of the ladies earlier, you start



MRS. O. BLEVIT, Lincolnwood, Ill. . . . I don't mind so much changing because the temperature in the house is about the same yearly."

out with a cool scoop neck dress and you go to a movie or restaurant, or somewhere where it is air conditioned and you have to think about the stole or the jacket, or something like that.

In my own home, at least, I don't have any impression that I have changed the type of clothing I buy any more.

MRS. BAUMEISTER: I would say that I think I buy better cotton perhaps than I used to. A cotton dress that maybe you paid \$20 or \$25 for, you figure it is going to be washed indefinitely, and that was a sufficient price.

Now you can wear a cotton dress through your whole day, through dinner, and still be fresh and nice in it, so paying \$50 or \$60, which they are asking now, doesn't seem to be the problem that it was.

MRS. WENGERHOFF: I find when people come over to our house they dress differently than they would in their own home. I have had girls call me up and say, "Are we getting dressed or shall we wear pedal pushers?" I say, "You wear whatever you want. The house is cool."

So they say, "Oh, that is right. Let's get real dressed up for a change. It is wonderful." They feel comfortable in what they are wearing that way.

MRS. PINCHUK: It keeps the bed cleaner and you have less laundry to wash because you don't perspire so much like before. The bedding used to be dirty from perspiring and everybody would throw things around because it was so warm. You couldn't find a place to put yourself. Now there are less clothes to wash in the summer when you have air conditioning because the bed is cleaner.

MRS. MITTY: I do find in the air conditioning in the summer that my face doesn't dry up like it used to and I don't have to soak it with cream like I used to. It makes a lot of difference.

MISS LINDE (McCall's): You ladies seem to stress the sameness of winter and summer. Don't you get tired of the same slipcovers and drapes? Don't you like to change them a little bit in summer and go to a lighter atmosphere?

MRS. LAKOUTA: I don't feel I have to send them to the cleaners. I take them out the back door, brush them out, and fold them. When I want a change I bring them out of the boxes.

MRS. BAUMEISTER: I thought that was old-fashioned. I thought you just threw everything out after a few years, and got a new one again.

cooling sales more versatile thermostat!

Honeywell's T87 Heating-Cooling Thermostat with the Q405 subbase, even though used to control heating only, is a constant reminder of the benefits of central air conditioning



The typical homeowner may not want to take on the extra cost at the time he buys his home, but you can be sure he's interested in air conditioning—at least as an "add-on" feature.

And if before he moves in you install the T87, with a Q405 subbase, you're way out in front when it comes to that "add-on" business!

The T87 handles immediate heating control effortlessly. And every time the homeowner checks his thermostat he will see the words—"COOL" and "HEAT." It's a constant reminder that his system can be easily converted.

Plans for many new homes include the duct work and space for central air conditioning. This makes the later installation of central cooling easier, less expensive and provides a better system. When the Honeywell T87 is included, the house is easily adaptable.

Automatic change-over from heating to cooling is featured in companion models to the manual-change T87. Both the Honeywell TA830 or T833 are readily adaptable to any heating-cooling need.

For full information on the T87 and companion subbases call your local Honeywell office. Or write to Minneapolis-Honeywell, Dept. AN-6-211, Minneapolis 8, Minnesota.

Honeywell



First in Controls

Cold Water Operates Home Air Conditioner



KEY NO. G-640

OMAHA, Neb.—Hastings Air Control Co. recently announced a home air conditioner which operates entirely on cold city water or well water—without the use of a compressor.

Unit consists of an all-copper water coil, cabinet, humidity pan, and filter section. It can easily be attached to any furnace, and requires no electrical connections,

the manufacturer indicated.

Furnace fan draws air through the coil where it is cooled and dehumidified, then distributes it to the house through existing ducts and registers. The coil operates on the same principle as a car radiator except in reverse. Heat is transferred from the air through the copper and into the water. The discharge water may be used again for any purpose, such as domestic supply or lawn sprinkling, it was explained.

Cold-water cooling offers the advantage of unlimited fresh air, Hastings said. Any desired quantity of outside air can be brought through the coil, even in hottest weather. Selection of the proper size unit is very simple, and installation only takes a few hours, it was added.

The only operating expense is the small cost of water and power for the furnace blower. This generally runs about \$25 or \$30 for an entire cooling season. Maintenance is practically non-existent, since there are no moving parts.



Develops Spun Aluminum Power Roof Exhauster

KEY NO. G-641

MCCORDSVILLE, Ind.—A new line of spun aluminum power roof exhausters with air deliveries ranging from 300 to 5,170 c.f.m. has been developed here by Brookside Corp.

Built of heavy-gauge aluminum, except for the steel motor mount and rubber floats, exhausters have a backward inclined wheel directly connected to the motor.

Low silhouette is a feature, along with ease of installation.

Oil, Gas-Fired Furnace Line Adapted for Cooling

KEY NO. G-642

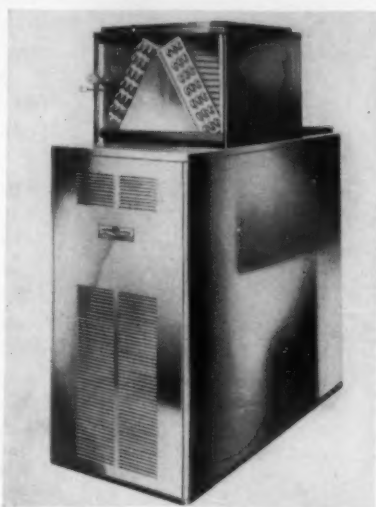
LEBANON, Ind.—A complete new line of oil and gas-fired forced warm air furnaces, designed with the problems of development builders in mind, and adaptable for simplified summer cooling, has been announced by the Heating & Air Conditioning Div. of Stewart-Warner Corp.

The new "Wiz" furnace line, made in basement, vertical, counterflow, and horizontal models, incorporates the engineering advances in home comfort equipment and can be installed quickly in a minimum amount of space, it was said.

Wiz model furnaces are equipped with an accordion-type heat exchanger which increases the heating surface by 56%. The corrugation absorbs more heat, thus saves fuel, and eliminates expansion and contraction noises while in operation, the company claims.

Any Wiz furnace can be furnished as a complete year-round conditioner, equipped with a Stewart-Warner evaporator cooling coil and outdoor condensing unit. Or, it can be originally installed with the evaporator casing left empty with the evaporator and condenser to be added later, it was explained.

Evaporator units are dried, charged with Refrigerant-22, and capped. They need only be in-



serted in the evaporator casing and have refrigerant lines run to them for summer-time cooling, it was added.

In the gas-fired furnaces, the burner controls are all in one compact unit eliminating grouping of individual controls and contain a single-port flame retention unit. Models for all gases as well as controls for 100% safety shut-off controls are also available.

Oil burners are designed and integrated with the Wiz furnaces for maximum efficiency, it was stated.

Thermostat Eliminates Adjustment Delays

KEY NO. G-643

SKOKIE, Ill.—Delays in adjusting air conditioning systems to meet daily and seasonal needs are

claimed to be eliminated by a new positive change-over thermostat announced by the Powers Regulator Co. here.

Called type H-C heating-cooling thermostat, the instrument acts rapidly and positively whenever the user changes it from heating to cooling, or vice versa. It cannot linger in a "fence-sitting" position, the company said.

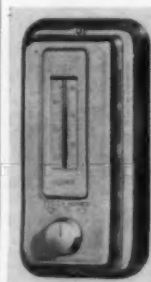
The thermostat is used with vents constant air waste, the company stated.

tioning systems in offices, schools, hospitals, stores, banks, and other commercial and institutional structures.

For the heating cycle, the instrument operates on a 22 p.s.i. supply pressure. For cooling, supply pressure is 15 p.s.i. Whenever the supply pressure is changed, the thermostat's new relay and flapper valve (used instead of a coil spring and bellows) positively changes the control action, it was added.

In addition, its single ball double seat air valve mechanism provides 100% larger air capacity for fast repositioning of the control valves or dampers without using amplifying relays.

The valve mechanism also prevents constant air waste, the company stated.



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of
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air where
you want it!

Specify the NEW
Lima
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COMMERCIAL
AIR CONDITIONING
REGISTERS and GRILLES
Completely Adjustable

COMPLETE AIR CONTROL

STURDY CONSTRUCTION

LASTING BEAUTY

In your air conditioning business, complete air control is of extreme importance. Naturally you have the greatest appreciation of registers and grilles that properly direct the air. Lima single and double deflection registers have horizontal and vertical face bars that can be easily adjusted to provide any air pattern desired.

You'll also agree that the construction and finish of air conditioning grilles are mighty important too. Lima registers have one-piece rigidity. All joints are welded and corners are reinforced for extra strength . . . no rattles in high velocity air streams.

Lima durable beige enamel finish is electrostatically applied for uniform coverage and protection and then baked on for lasting beauty. May be repainted if desired.

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(list name, page, and issue date)

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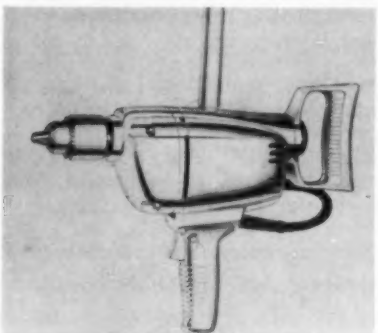
Introduces '57 Line of Auto Conditioners

—KEY NO. G-644—

FORT WORTH, Texas—New 1957 line of automobile air conditioners have been introduced here by Clardy Automobile Air Conditioning Co.

Line is comprised of three units—the "Champion" and the "Clipper," under-dash models, and the "Statesman," a trunk unit. All models are referred to as "Towne and Country" due to their adaptability to city or country driving, it was pointed out.

The Clipper model features pushbutton controls. It has a plastic cabinet, automatic clutch for constant temperature, three-speed squirrel-cage blowers that can be set for constant speed or thermostatic controls, the company indicated.



Portable Drill Has 4-Position Handle

—KEY NO. G-645—

CHICAGO — Portable Electric Tools, Inc. is featuring a new extra heavy duty 1/2-in. drill with adjustable (or removable) four-position rear handle.

The drill, with speed and torque requirements for continuous industrial use, is easy to use in tight spots with the new handle, it was said. The armature has two ball bearings and the spindle has ball and needle bearings.

The motor is claimed to pull a full 5 amps.

Gears are precision cut from stressproof alloy steel that is strain-relieved and heat-treated before matching.

In addition, the drill is equipped with gear-type chuck and key, 10-ft. rubber covered three-wire cord with molded strain relief, plug and adapter. Retail price is set at \$54.95.

Designs Ratchet for Small Working Area

—KEY NO. G-646—

PORTLAND, Ore.—P & C Tool Co. here recently introduced a 1/2-in. drive ratchet designed for small working area on appliances, etc.

Unit is 4 1/16 in. long, has a head with maximum diameter of 1 3/16 in., meets rigid government torque specifications, the company said. It is designed to operate under minimum tension conditions with minimum amount of drag on ratchet wheel. Dog is reversible without removing the hand from the handle, the manufacturer explained.

Torch Diverts, Pre-Heats Gas

—KEY NO. G-647—

EDGERTON, Wis.—Employing a new principle, Prepo Corp. here has introduced a "Six/40" torch kit which pre-heats its gas.

Operating on liquefied gas fuel delivered in disposable tanks, the unit diverts gas through a superheater tube to and around the hot mouth of the combustion chamber and pre-heats it to over 1,000° F. When discharged into the burner, this pre-heated gas

produces a flame temperature exceeding 2,700° at burner output of 7,000 B.t.u.h., the company pointed out. It can be throttled down to a tiny flame with control of variations possible. Price of this "Super Duty" torch is \$6.95 complete with fuel tank.



Commercial Air-Cooled Systems Introduced

—KEY NO. G-648—

NEW YORK CITY—American-Standard Air Conditioning Div. here recently introduced models RC-B and ACP air-cooled air conditioning units in both remote and self-contained models for commercial use.

RC-B includes evaporator, blower, and filter in one jacket, is available in 2, 3, and 5-hp. sizes. It is designed to be used in conjunction with model AC-A outdoor air-cooled condensing unit, the company noted. RC-B evaporator blower can be used as a packaged

unit suspended in any spot, incorporated into the ductwork of any existing warm air heating system, or installed with its own independent duct system.

ACP is available in 2 and 3 1/2-hp. sizes, completely self-contained with evaporator, blower, compressor, and condenser in one package. It can be used without ductwork in light applications. It may also be incorporated in existing warm air duct systems or used with its own ductwork. Models are equipped with dual compressors which permit constant temperature and humidity control over a wide range of conditions, it was stated.



Premix Dispensers Electrically Cooled

—KEY NO. G-649—

LIMA, Ohio—A new line of electrically cooled, manually operated premix dispensers was recently introduced here by S & S Products, Inc.

Compact, easy-to-use units are suited for eating outlets and are available in two models, it was

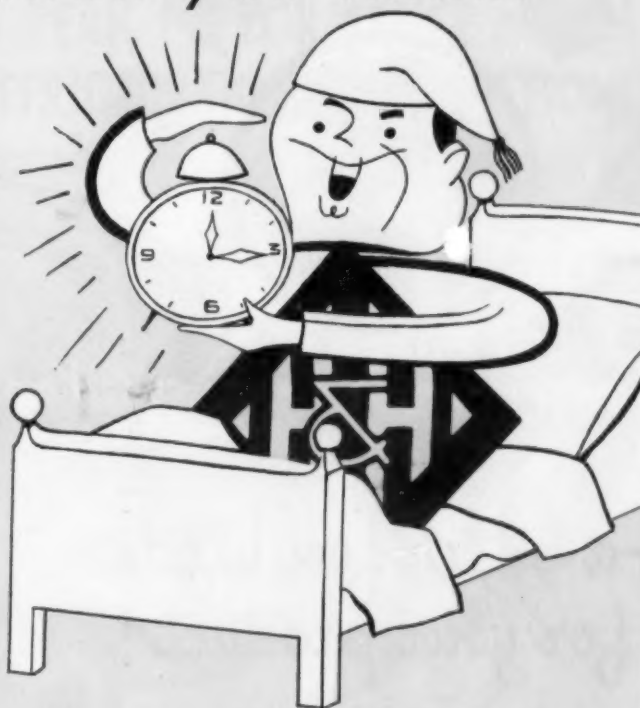
explained. Model 8700 E-2 has two draft arms for two flavors and model 8700 E-3 has three. All are equipped with 1/2-hp. high-volume refrigeration units. Capacity is 9 g.p.h., chilling from 80° to 40° F.

Model 8700-E is equipped with special plastic counter head dispenser. Cooling cabinet is 17 1/4 by 22 3/4 by 36 3/4 in. With serving shelf and dispensing head attached it is 17 1/4 by 22 3/4 by 58 1/4 in. Front cover of dispenser is yellow and white plastic.

Models 8700E-2 and E-3 are also available without the serving shelf for installation on existing counters or bars. Product containers and carbon dioxide cylinders can be used remotely, it was noted.

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PARTS
STRAIGHT
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AIR CONDITIONING YEAR
lies ahead

COILED COPPER TUBING

Standard 50' refrigeration coils are available from 1/4" O.D. to and including 3/4" O.D. in wall thicknesses from .030" to and including .035". Extra soft deoxidized, bright annealed. Ends are capped,

plugged or crimped as you require.

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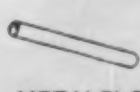
Random or cut to length; .072" O.D. up to and including 1 3/4" O.D. with wall thickness of .065" and lighter.

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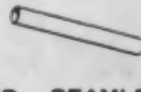
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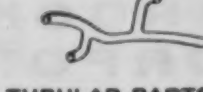
LOCKSEAM



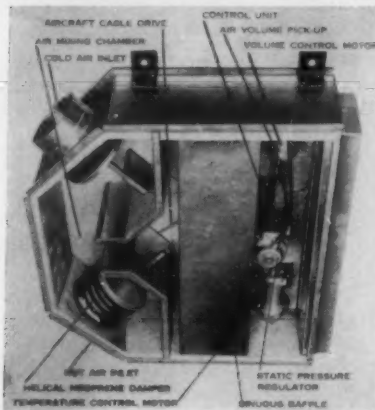
COIL STRIP



AND SEAMLESS TUBING



TUBULAR PARTS



Valve Attenuator Has 45° Air Inlet

—KEY NO. G-6410—

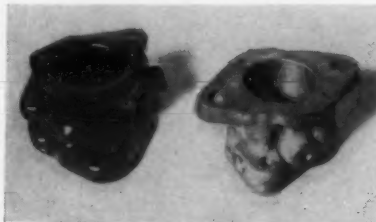
DANBURY, Conn. — Connor Engineering Corp. here recently offered "Kno-Draft" series 45 valve attenuators with 45° air inlet connections which are said to permit direct hookup with any type duct layout.

These dual duct air conditioning

pressure and velocity reduction devices have simple, accessible controls in a compact unit, it was stated. Helical neoprene dampers, with rubber-to-rubber contact, are claimed to reduce leakage to within 2%. Air pressure and velocity are throttled through soft-walled venturi section.

A frictionless aircraft cable drive over nylon pulleys eliminates control lag and insures accurate temperature response, the company noted. One thermostat-controlled motor proportions both hot and cold air flow. A second, actuated by pressure regulator, maintains constant volume regardless of air pressure fluctuations at the inlets.

Air volume of each valve may be pre-balanced or adjusted by one control. Where constant volume is not needed, one motor and pressure relay are replaced by a manual setting device. High frequency sound waves are blocked by a sinuous baffle and deep lining absorbs low frequencies, it was pointed out. Made for capacities of 140 to 1,200 c.f.m., attenuators come in above-ceiling and under-window models.



Plastisol Coating Strips Off

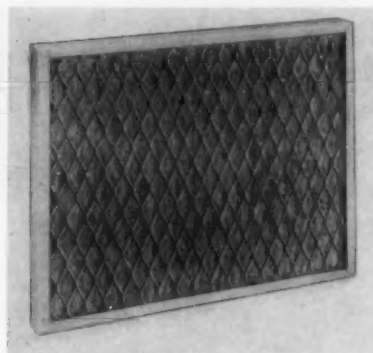
—KEY NO. G-6411—

AUBURN, N. Y. — A new strip-off plastisol coating for the protection of all kinds of metal parts and products has been formulated by the Chemical Processing Div. of Auburn Button Works, Inc.

The new material is low in cost and can be applied by unskilled labor by simply heating the parts and dipping them in the plastisol, it was stated. The plastisol can be peeled off readily by hand and serves as a protective coating for any metal parts which are subject to rust, corrosion, dirt, or damage while in storage or transport.

The controllable thick cushion provided by the plastisol formulation makes it usable for all types of precision instruments and parts having sharp edges which may be damaged in handling or shipping.

The plastisol coating provides resilient cushioning which reduces shock and breakage. Its defense against oxidation, rust, and corrosion and against nearly all chemicals including most acids, alkalis, and solvents, has been proved. In addition, it will not absorb moisture and is completely waterproof, the firm said. It also has high thermal and electrical insulating qualities. It is completely unaffected by extreme heat or cold.



Offers Permanent Dry-Type Filter

—KEY NO. G-6413—

SPRINGFIELD, Ohio — New "A-lum-O-Aire" permanent dry-type filters were recently offered by Carey Electronic Engineering Co. here.

For all domestic, commercial, and industrial air-cleaning requirements, this unit, with aluminum-wool media, catches and holds dust, dirt, and lint particles, without the use of oils or adhesives. Millions of tiny barbs, produced in the manufacturing process developed by Carey, do all the filtering, it was explained.

Rustproof, fireproof, and highly resistant to chemicals or adverse atmospheric conditions, all A-lum-O-Aire filters are easily rejuvenated for continuous service. Simply clean with vacuum or flush with water and replace, the company said.

Available in standard or specially engineered sizes, and thicknesses of 1/2, 1, and 2 in., A-lum-O-Aire permanent filters offer cleaner, healthier air in all industrial installations, it was claimed.

Develops 3 'Quick-Dump' Control Valves

—KEY NO. G-6412—

KALAMAZOO, Mich. — Development of three new "Quick-Dump" control valves, for fast, smooth operation of double-action cylinders, has been announced by Humphrey Products Div., General Gas Light Co. here.

The new valves are four-way, five-port models, utilizing the same Quick-Dump valving mechanism employed in all other valves in this line.

There are no internal springs, packings, pistons, or sliding, metal-to-metal contacts. Valving action is said to be ultra-fast and positive, giving smooth flow, dead-seal closing, extra large capacity, and prolonged service life, the company said.

Two of the new valves are electrically operated and the third is equipped with hand lever. The electric valves do not employ solenoids, but, instead, have new type electro-magnetic armatures, claimed to be very fast, powerful, and durable. Armature travel in actuating the valve is only .022 in. This short throw, the manufacturer explains, eliminates hammering action and reduces wear.

One of the electric valves is a "momentary impulse" type. A

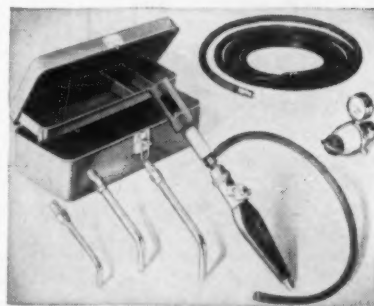


single electric impulse opens one valve section and closes the other. Valve then stays in this position until a second electrical impulse returns it to the opposite position. Electricity is used for impulse only. No current is required to hold in either position.

The second electric valve of the "Fails Safe" type "holds" as long as current is on, and returns to normal or original position when electricity is shut off, or if an electrical line failure occurs.

The hand lever valve is designed for mounting on bench, on machine, at production line station, etc. Lever action requires only a finger-tip touch, and a short forward or back movement, permitting very rapid, easy valve action. Valve "holds" at either forward or backward position of lever, it was explained.

Detect Leaks, solder— heat— braz—



all with the PREST-O-LITE Trade-Mark Refrigeration and Air-Conditioning Outfit

This handy kit gives you all the soldering, heating, brazing, and leak detecting equipment you need for servicing and installing refrigeration and air-conditioning units.

Three open-flame torch stems provide exactly the right fine, light, or medium flame for all average jobs. A quick and accurate leak detector reacts instantly to as little as 100 parts of halide refrigerant gas in a million parts of air. Open flame stems and leak detector stem are quickly interchangeable on the same precision torch handle.

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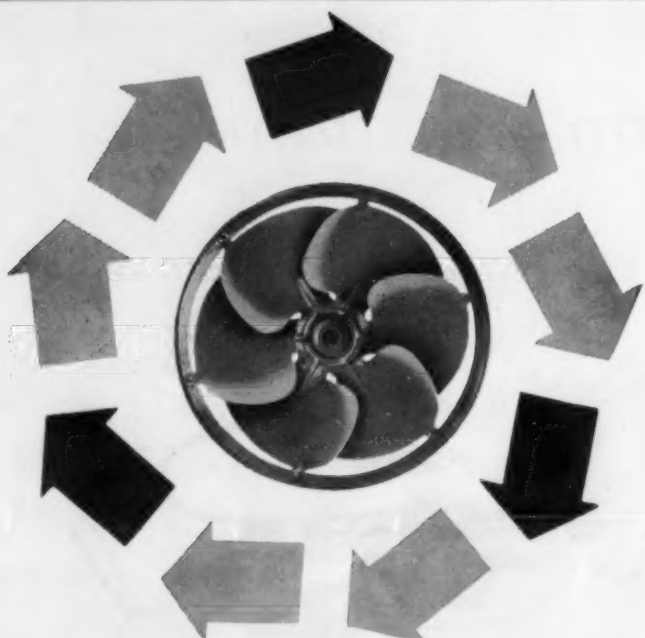
Or write for further information: LINDE AIR PRODUCTS COMPANY, a Division of Union Carbide and Carbon Corporation, 30 East 42nd Street, New York 17, N. Y. In Canada: Linde Air Products Company, Division of Union Carbide Canada Limited, Toronto.

The terms "Linde" and "Prest-O-Lite" are registered trade-marks of Union Carbide and Carbon Corporation.

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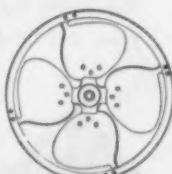
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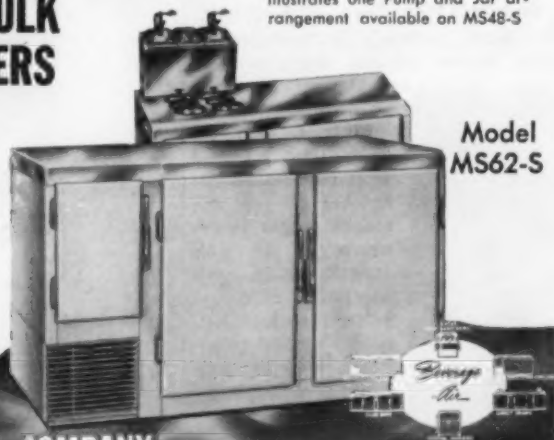
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**ICE CREAM MIX
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COOLERS**

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Capacity and durability combined with positive, low cost cooling. Widest range of remote or self-contained models. Reinforced stainless steel tops — plain or with various pump and fruit jar arrangements. Hold 5 and 10 gal. cans with no lost space. Refrigerated "Utility" compartment for extras.

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Model
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THE PUNXSUTAWNEY COMPANY
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Discusses Biological Fouling of Water

—KEY NO. S-640—

PHILADELPHIA—Betz Technical Paper 134, reprints of an article by J. J. Maguire of Betz Laboratories, Inc. here, have been made available.

The paper is a discussion on "Biological Fouling In Recirculating Cooling Water Systems."

Describes Vertical Pressure Filters

—KEY NO. S-641—

PHILADELPHIA—Cochrane publication 6321 describes standard type "C" vertical pressure filters for commercial buildings, institutions, and small industrial plants.

Filters are used for clarifying water by removal of suspended matter, turbidity, dirt, rust, oil, and color commonly found in surface waters, the firm said.

The publication furnishes details of operation, available sizes, and filtering capacity of the units.

Tells Air Conditioning Water Treatment

—KEY NO. S-642—

NEW YORK CITY—Literature on the treatment of water in air conditioning systems has been published by Water Service Laboratories, Inc., a firm of research and consulting engineers specializing in the field of water treatment.

Subjects covered include hints on corrosion and scale prevention, problems in chilled water circulating systems, refrigerating plants, and control of chemical treatment.

Publishes Guide on Freight Classification

—KEY NO. S-643—

DETROIT—Shippers of air moving and conditioning equipment interested in securing lowest possible freight costs and reducing overcharge claims are invited to write for a free copy of "Freight Classification Guide," published by the Air Moving & Conditioning Association.

Every basic type of air moving and conditioning device and component is illustrated and classified according to its applicable freight classification, as established by weight, and proper packing requirements, AMCA said.

Products described include all types of fans; ventilators; air conditioning units; air washers; convectors; units heaters; and parts such as cabinets, coils, dampers, blower and fan housings, machine guards, motors, shutters, propeller and centrifugal wheels.

Inquirers should write AMCA, 2159 Guardian building, Detroit 26, and ask for Bulletin 150.

Bulletin Covers Combination Burners

—KEY NO. S-644—

LOS ANGELES—Mettler "Fan-Air" combination gas-oil burners for jobs requiring dual fuels are described in bulletin GO-200-B, recently made available by Mettler Co., Inc., division of Eclipse Fuel Engineering Co., it was announced.

The six-page bulletin, together with a companion four-page supplement describing the oil-firing side of unit, explains how the Mettler design is claimed to improve heating efficiency, lower fuel costs, and increase operating safety.

Bulletin also lists input capacities, output ratings, and construction details required for the installation of any of the four sizes of burners in this type unit of the Mettler line. Four basic models of gas-oil burners are illustrated with capacities ranging up to 400 b.h.p. Additional photographs and line

drawings are used to explain both the operating components of these packaged burners and to detail typical installations, the company stated.

Gas Unit Heating Data Released

—KEY NO. S-645—

MERCER, Pa.—"Application of Gas Unit Heating," a pocket-size bulletin which presents a variety of data on gas unit heating, has been published by the Reznor Mfg. Co. here.

Material in this pocket guide will be helpful in determining the situations in which this system of heating can successfully be applied, and to give basic information on the selection and installation of the proper equipment. It is not a technical manual, but a basic outline to the proper application of gas unit heaters.

Some of the points covered are when and where to use gas unit heaters; how gas unit heaters cut heating costs; and things to remember about heater location, thermostat location, and venting, it was added.

Issues Condensed Steam Trap Buying Guide

—KEY NO. S-646—

CLEVELAND—A four-page bulletin, a complete condensed buying guide on steam traps, made by the firm has been issued here by V. D. Anderson Co., division of International Basic Economy Corp.

It contains specifications, capacities, sizes, pressures, weights, and list prices of all types of "Super-Silvertop Traps." It also covers self-cleaning strainers and a steel series steam trap.

Instructs on Dishwasher Slime, Scale Removal

—KEY NO. S-647—

BIRMINGHAM, Ala.—Fulfilling the need for a safe—yet effective—method of deliming institutional dishwashers, the Chemical Solvent Co. has announced the availability of printed instructions for the use of "CSCO" ice machine cleaner powder for the removal of slime and scale from dishwashers.

Experience has shown that the

efficiency of dishwashers is impaired by minerals which coat the inner surfaces of the machines and clog the jets, thereby reducing the effectiveness of the wash and the rinse. CSCO ice machine cleaner is a safe, effective preparation for "deliming" or removing these mineral deposits. It is safe from a health standpoint when used as directed and is packaged in safe-to-handle 8-oz. polyethylene bags, 25 bags to the carton.

Hot Water Heating Benefits Outlined

—KEY NO. S-648—

CHICAGO—A new booklet to help heating dealers explain hot water heating and its benefits to the consumer has been published by Crane Co.

The 16-page booklet begins with an explanation of radiant heat, then emphasizes the comforts of radiant baseboard installed around exterior walls to eliminate drafts and cold spots. It gives the homeowner the picture on boilers, emphasizing the Crane 20-year guarantee on its five "Sunnyday" residential boilers.

Gives Latest Figures On Electrical Industry

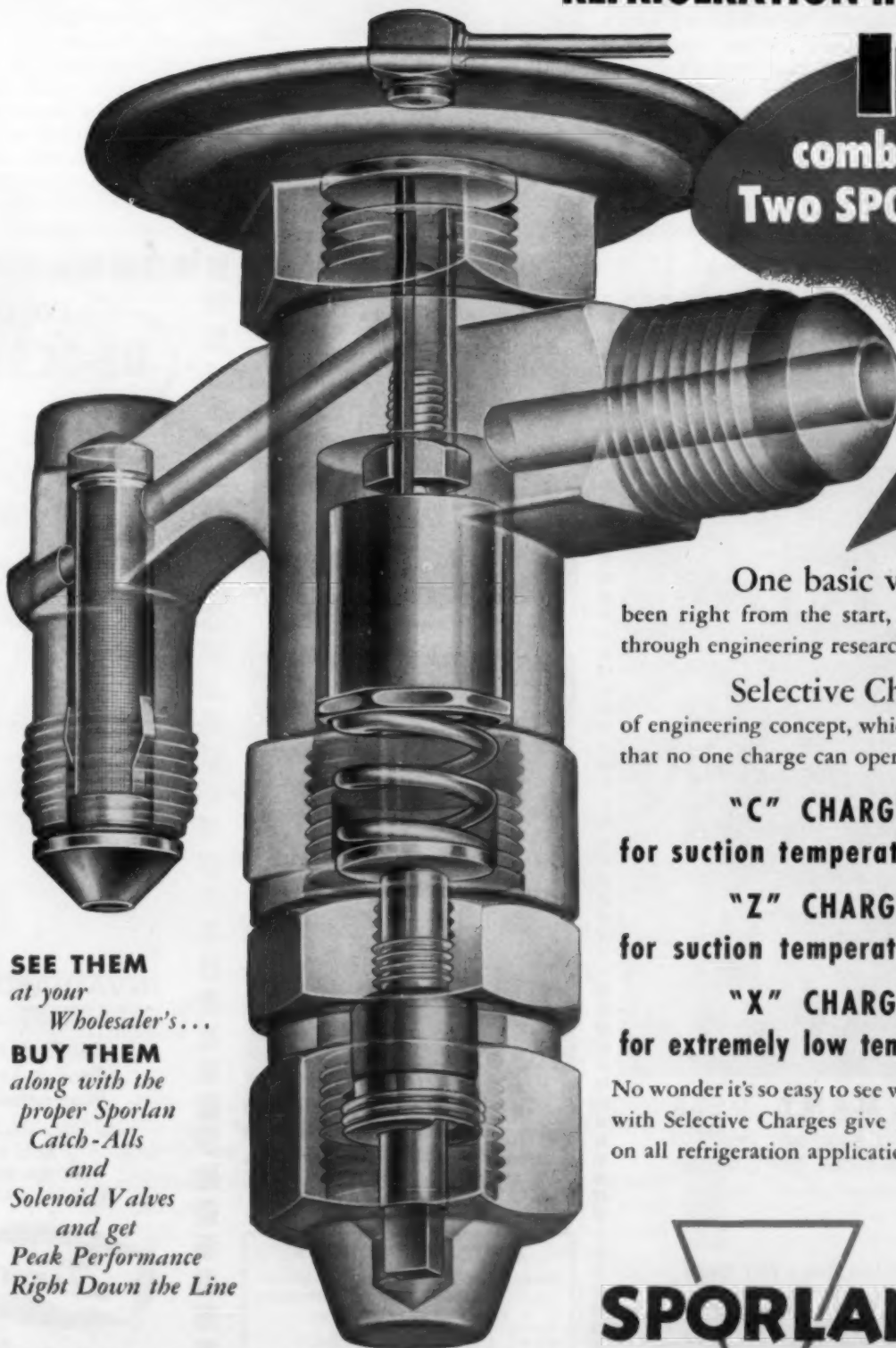
—KEY NO. S-649—

NEW YORK CITY—The 1957 edition of "I Want to Know About the Electric Industry" was recently published by Edison Electric Institute.

In addition to the latest available figures, estimates of future prospects are given when appropriate. A new question on atomic energy in this edition—ninth in the series—brings to 29 the total number of questions which the booklet answers broadly and with considerable supporting statistical data.

In both text and tabular form, the book presents data on the recent growth of capacity and production, the investments in new facilities which made this growth possible, and the present plans for continued expansion. There is also a discussion about the prospects for utilizing atomic energy in the production of electricity, and what has been done to date by the investor-owned electric companies in this field.

It's so Easy to See Why **SPORLAN G VALVES**
with **SELECTIVE CHARGES** give **PEAK PERFORMANCE** on ALL
REFRIGERATION INSTALLATIONS



It's the combination of Two SPORLAN Firsts that date back to 1934

One basic valve design that has been right from the start, plus constant refinement through engineering research.

Selective Charges, then an unheard of engineering concept, which today keep on proving that no one charge can operate on all applications.

"C" CHARGE
for suction temperatures **ABOVE ZERO**

"Z" CHARGE
for suction temperatures **BELOW ZERO**

"X" CHARGE
for extremely low temperatures

No wonder it's so easy to see why SPORLAN G-Valves with Selective Charges give **PEAK PERFORMANCE** on all refrigeration applications... they always have!

SEE THEM
at your
Wholesaler's...
BUY THEM
along with the
proper Sporlan
Catch-Alls
and
Solenoid Valves
and get
Peak Performance
Right Down the Line

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EXPORT DEPT.
AD. AURIEMA INC.,
89 BROAD ST., NEW YORK 4, N.Y.

SOLDERS, FLUXES

Part 4—Soldering Techniques

By Frank J. Versagi
Mueller Brass Co., Port Huron, Mich.

Some servicemen have been soldering and brazing for years; others have avoided soldering whenever possible. Both groups will profit from a step by step analysis of general soldering technique. While we go through the steps, we will tie in the principles we have learned about solders and fluxes so that the reason for some of the instructions become meaningful. We will deal with soldering copper tube and fittings; the techniques discussed, of course, can be applied to any of the metals.

What To Do

1. Cut the tube to length and remove any burr with a file or scraper:

Matched tubes and fittings normally supply the correct clearance between mating members. Since capillary action depends on close tolerance to function properly, anything which will change the clearance must be eliminated. Burrs, out-of-roundness, and slanted ends (not square cut) will weaken a joint.

2. Clean outside of tube with sandpaper or sand cloth, and

3. Clean inside of fitting with sandcloth, sandpaper, or wire brush:

Next to correct mechanical fit, the most important consideration in soldering is cleanliness, complete cleanliness. Abrasion removes dirt and thin layers of

oxide present on all metals. Flux will not reach and solder will not adhere to a surface that is not completely clean, and we have seen that the great strength of a soldered joint is due to bonding strength at the interface between the solder and the base metal.

Use of Steel Wool

Some servicemen like to use steel wool. When used carefully, this is all right. But it is easy to leave fine particles of wool in the joint or on the tube, and most experienced tradesmen avoid its use.

The tube should be cleaned to a bright finish to a length slightly greater than the cup length of the fitting.

4. Apply flux thoroughly to the inside of the fitting and to the outside of the tube:

A paste flux should be thoroughly mixed each time before using. The reason for this is that the chemical ingredients may separate or settle out on standing.

Since only a limited amount of flux can be introduced into a joint, only a certain amount of oxides can be dissolved before the flux becomes spent. Removing oxides mechanically as in steps 2 and 3 reduces the work which must be accomplished by the flux.

Normally, the flux is applied only to the length of the tubing

STEP BY STEP ANALYSIS



1. Cut the tube to length and remove any burr with file or scraper.



2. Clean outside of tube.



3. Clean inside of tube.



4. Apply flux to inside of fitting and . . .



4-A. To outside of tubing.



5. Heat with torch.



6. Tap larger fittings to insure all gas and flux has been displaced by solder.

which will fit into the fitting cup. In the case of brazing, where the high temperatures may blacken or scale the tube, flux may be applied for a greater length—long enough to include all the tube which will be heated to relatively high temperatures during the brazing.

When the fluxed tube and fittings are mated, they should be rotated or moved about each other to spread the flux evenly.

5. Heat with a torch. When the solder melts upon contact with the heated fitting, remove the flame. Feed the solder at one or two points until a ring of solder appears at the end of the fitting:

How To Apply Heat

Heat must be applied in such a manner as to bring the joint up to temperature evenly and quickly. On small joints up to 1 1/4 in. a propane torch, acetylene torch, or gasoline torch can be used. For joints from 1 1/4 in. to 3 1/2 in. a gasoline or propane torch with a wide flame is recommended. For joints above 4 in. two torches or specially designed ring torches are needed.

Since the oxides formed during heating must also be removed by the flux, fairly rapid heating is necessary to prevent the flux from becoming spent or charred before completion.

The entire joint should be uniformly heated since the solder will not completely fill the joint if there is a cold spot. The easiest way to determine if the joint is hot enough is to remove the flame occasionally and touch the joint (where the tube enters the fitting) with the solder. This technique presupposes that

the flame has been played over the entire fitting, and that the point where the solder is tested is not the hottest area.

When the joint is up to temperature, the solder should be applied at only one or two spots. Capillary action will cause the solder to flow into a joint and completely fill it. In larger fittings, the joint may be tapped to insure that all flux and gases have been displaced by the solder.

The need of having the fitting up to temperature before applying the solder or brazing alloys is based on the melting and thermal properties of the solders as we discussed in our last article.

In soft soldering a fillet at the end of the joint is of no value. In brazing a fillet is used; here it adds strength and insures a leakproof joint. Do not quench a brazed joint, but allow it to cool slowly in air.

Cleanliness

If we had to pick the most important single factor in soldering which is under control of the serviceman, we would pick cleanliness. This cannot be over-emphasized. Where the torch is applied, what kind of solder or flux is used, the position of the fitting all vary with the technique and the individual.

But all the things we have talked about—capillary action, wetting, bonding strength—are affected by dirt or foreign matter or oxide. The best technique in the world won't make a dirty joint a good one.

Next: Desiccants, how they work, what they will and won't do.

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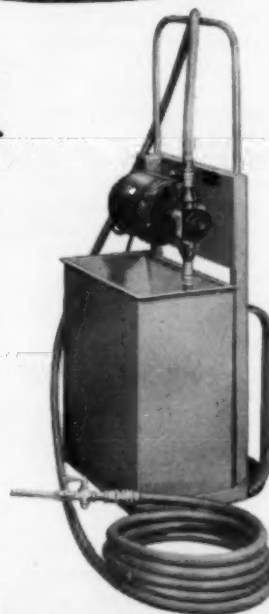
For your copy, clip this ad and mail with name and address to: Air Conditioning & Refrigeration News, 450 W. Fort, Detroit 26, Mich.

NEW LOW-COST ANSWER TO DE-SCALING and CLEANING Problems

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Westinghouse Adds, Reassigns 7 In Refrigerator-Freezer Dept. Expansion

COLUMBUS, Ohio—Westinghouse Electric Corp. has expanded its headquarters refrigerator-freezer department here, adding new personnel and changing some assignments, according to W. R. Arbuckle, manager of the department.

The new departmental organization is: C. J. Vondran, merchandise manager of refrigerators; C. J. Kenny, merchandise manager of freezers; A. E. Nave, manager of productive planning; E. H. vanGuelpen, manager of sales training for refrigerators and freezers; R. R. Burkholder, advertising supervisor; G. W. Erdmann, Jr. and C. Briich, assistants to the department manager.

The merchandise manager will develop and initiate sales programs, advertising and promotional campaigns, and sales training. The manager of product planning will develop and initiate product development. The assistants to the department manager will handle special assignments in connection with near and long-range expansion and will deal in all phases of product planning, design, engineering, and manufacturing.

Vondran for the past nine years has been with the Westinghouse Electric Supply Co. in the capacities of salesman, appliance sales manager, branch manager at Columbus, and currently at Indianapolis.

Erdmann has been merchandising manager of refrigeration. He first joined Westinghouse in

1936 and left in 1946, returning in 1954. In the interim he was associated with Charis Corp.

Briich first joined Westinghouse in 1943 in the renewal parts department. After his army service he returned in 1948 becoming first manager of trade-in sales and later manager of freezer sales training.

Kenny joined Westinghouse at Mansfield early in 1950 in the market research department. Subsequently he has held positions in range advertising, central district appliance sales promotion, and as distributor sales manager, major appliance regional sales promotion manager, and refrigerator-freezer national sales representative.

vanGuelpen joined the company at Mansfield in 1954 as a national sales representative.

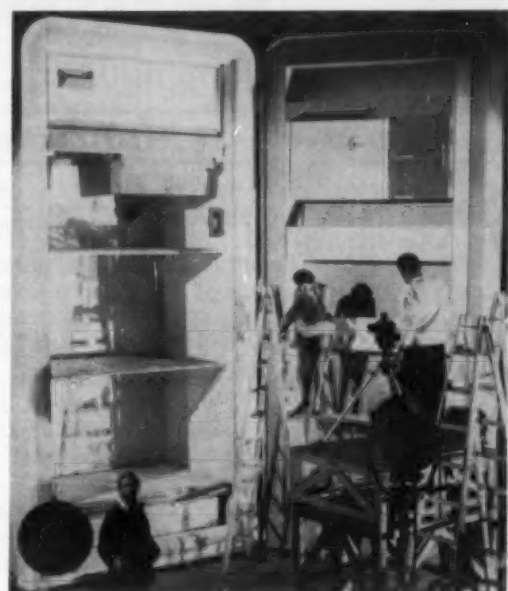
Whirlpool To Ship Mixed Appliances by Rail, Truck

ST. JOSEPH, Mich. — Arrangements have been completed by Whirlpool Corp. for shipment of mixed-product carloads and truckloads of RCA Whirlpool appliances directly to dealers who order in those quantities, it was announced by John L. Bricker, vice president.

The new shipping arrangements, necessitated by full-line merchandising, will reduce operating costs of both distributors and dealers by easing the need for handling and warehousing, Bricker said. No surcharge or premium will be imposed by the factory on the mixed-product shipments.

As point of origin for the shipments, the company has a warehouse at Anderson, Ind. The warehouse is at the exact center of the nation's business.

Bunyanesque Refrigerator To Adorn TV



THIS giant refrigerator is a set used in a minute movie produced on the stages of Cinema et Publicite in Paris, France for International Div., Frigidaire. Represented in the U.S. by Arco Film Productions, Inc., New York City, the production company made full use of its huge stages to get this unusual effect. Arco Film Productions uses French as well as American facilities in making TV commercials.

NEW

PHILCO Refrigerator-freezer uses KLIXON Controls for Quality Performance

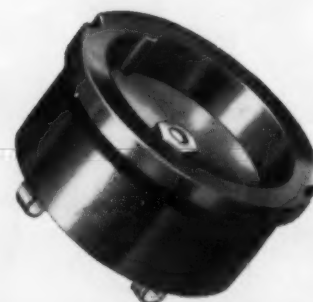
Smart, modern styling plus dependable operation — that's one way to describe the 1957 Philco 13.6 cubic foot Super Marketer.



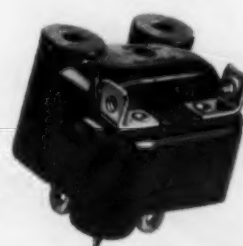
The new Philco Model 1478 combination refrigerator-freezer — the 13.6 cubic foot Super Marketer with a 5.1 cubic foot freezer.

And one way that Philco insures dependable operation and customer satisfaction is to use Klixon Dome-mounted Motor Protectors and Klixon Starting Relays. Thus, compressors in every refrigerator in the Philco line are kept working to maximum capacity even under the most difficult operating conditions — with dependable protection against compressor motor burnouts. And Klixon Motor Starting Relays assure positive starts.

If you manufacture refrigeration equipment, it will pay you to specify Klixon Controls — check with the salesman when you place your compressor order . . . or we will gladly send literature on request.



KLIXON Dome Mounted Protectors develop all the capacity available in a hermetic compressor under overload conditions — shut the motor down only when maximum allowable winding temperature is reached — automatically re-starts it when operation can be resumed safely.



KLIXON Motor Starting Relays complete the combination required to start and protect hermetic motors. Their positive action and long life eliminate starting troubles.



KLIXON Hermetically Sealed Thermostats give spot temperature control, unaffected by altitude or cross ambient temperatures. Easily installed . . . they can be used for automatic or manual reset heating or cooling operation.

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BETTY FURNESS

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WESTINGHOUSE
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What's Going On in Commercial Refrigeration

News of Markets, Products, Methods

Internal Revenue To Get NARGUS Study Results

Seek To Revise Store Equipment Depreciation Rate

CHICAGO — Results of a study on the useful life of food store equipment looking toward a revision of allowable depreciation rates will be presented to the Commissioner of Internal Revenue on June 30 by the National Association of Retail Grocers in the United States.

This was announced at the 58th annual convention of the association here recently by Henry J. Bison, Jr., associate general counsel of NARGUS.

"It is a well-known fact that the guide used by the treasury

department today in suggesting acceptable depreciation rates for food store equipment is long out of date," Bison said.

"There are instances where food retailers dispose of equipment before the treasury department will allow them to write off their investment in it. This results in a drain on working capital.

"For this reason, a revision of depreciation rates allowed on food store equipment is another form of tax relief that will produce beneficial results for food

retailers," Bison commented.

After the results of the NARGUS study have been submitted to the Commissioner of Internal Revenue, it will then be necessary to secure the treasury department's approval for the recommended changes.

Worthington Dealer

WINSTON-SALEM, N. C.—L. L. Carter & Son here has been appointed Winston-Salem and Forsyth County dealer for Worthington air conditioning, refrigeration, and heating units.

Consumers Split on Packaged Produce, But Pinch, Poke, Peel Breed Dying Out

WILMINGTON, Del. — Shoppers who demand the right to "pinch, poke, pry, and peel" before buying fresh fruits and vegetables are a diminishing lot, according to a new du Pont survey.

In a poll of 2,000 homemakers, 52% said they preferred packaged produce, 25% preferred to buy loose produce, while 22% expressed no preference. All patronized stores which offered at least half of the produce in packaged form.

The significance of these results to the retailer may be shown by comparison with an earlier study. In a 1950 survey, du Pont found that 49.5% of those polled liked to buy loose produce, 45% preferred the packaged type, while only 5.5% expressed no preference.

While the latest survey shows the scales tipped slightly in favor of packaged produce, the important change in shoppers' attitudes shows up in the large number who have shifted from a definite preference for loose produce to the "no preference" column.

RESULTS OF PACKAGING ONLY QUALITY PRODUCE

R. C. Myers, packaging sales manager for du Pont's film department, said the large number of consumers now "on the fence" in their attitudes about packaged produce shows the results of efforts by food retailers to package only quality produce.

"Transparent packaging preserves the right to inspect," Myers said, "but a housewife's confidence in packaging will be complete only when she is convinced packaged items are similar in quality and variety to those in a bulk display."

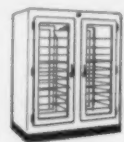
The group preferring packaged produce offered the following reasons: more convenient, time saver (56%); cleaner, more sanitary (54%); and keeps fresher (22%). Shoppers who liked to purchase fruits and vegetables loose said they preferred to make their own selection (60%), believed quality is better this way (29%), and found quantity in packages unsatisfactory (26%).

In the last few years, shoppers have gained much experience with packaged produce. Results show that 98% now buy some fruits and vegetables packaged for self-service and 75% have bought packaged produce for 2 years or longer.

APPRECIATE CONVENIENCE

Housewives appreciate the convenience of packaged produce in the home. 70% of those polled said they stored fruits and vegetables in the package, because produce keeps fresher in the package. Maintaining quality is closely tied to frequency of shopping. 60% of the homemakers said they shopped only once a week, while another 17% said they bought produce even less frequently.

The most frequently purchased packaged produce items were apples, oranges, carrots, lettuce, onions, potatoes, and tomatoes. Preference for the packaged form varied widely. Package broccoli, for instance, was preferred by 81% of those voting, while only 3% preferred the loose form. Results showed a narrow edge for bulk peaches, cucumbers, and tomatoes, but packages were preferred for each of the other 34 fruits and vegetables listed.



Reach-Thru

Outstanding merchandisers keep on going Tyler with this COLORFUL—



Frozen Food Cases



Service Cases

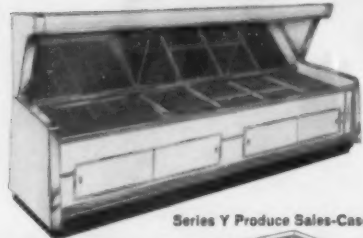
Sign of profitable

merchandising — efficient refrigeration

— low cost operation



Reach-In



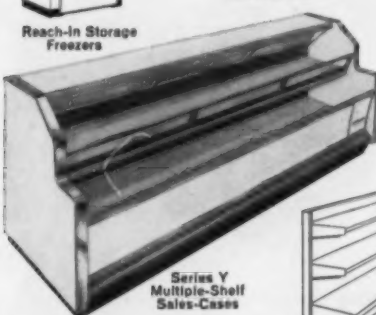
Series Y Produce Sales-Cases



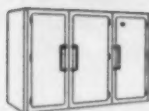
Reach-In Storage Freezers



Walk-In Storage Freezers and Coolers



Series Y Multiple-Shelf Sales-Cases



Sectional Storage Freezers



Airline Metal Shelving



Coin-operated Beverage Venders



Series Y Super-capacity Meat & Dairy Sales-Cases



Refrigerated Tables



Slide-Door



Self-Service Walk-Ins



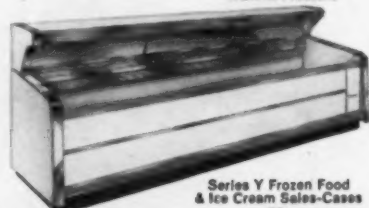
Series Y Meat Sales-Cases



Rolling-Cold Packaging Conveyors



Self-contained Walk-In Freezers



Series Y Frozen Food & Ice Cream Sales-Cases



Beverage Coolers



Condensing Unit Assemblies



Series Y Adjustable-Shelf Dairy Sales-Cases

Wherever you see this Tyler Color Panel, remember it as the symbol of an efficient, profitable food merchandising operation. The Big Tyler Line—which offers complete food refrigeration equipment for both sales area and backroom enjoys unusual acceptance among shrewd equipment buyers. Tyler represents the best value for your investment... with very latest convenience features... lower operating and maintenance costs... Tyler-Ketchum Color Compatibility System for profitable use of color in the store... other Advanced Design features that defeat costly obsolescence.

PIONEER of important improvements

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Rush latest data on new Tyler ☐ Sales-Cases (Series Y) ☐ Rolling-Cold Packaging Conveyors ☐ Walk-In Coolers ☐ Storage Freezers ☐ Reach-In and Reach-Thru Refrigerators ☐ Service Cases ☐ Condensing Unit Assemblies ☐ Airline Shelving ☐ Tyler-Ketchum Color System ☐ Store Planning.
NAME _____
ADDRESS _____

Ernst Has Rule for Meat Dept. Sizing In Stores Doing \$5,000 to \$10,000 Total Volume, Section Will Produce \$100 Weekly per Lineal Ft.

CHICAGO — Ralph Ernst, store engineer for Red & White Corp. and NARGUS, speaking at the 16th annual meeting of the National Independent Meat Packers' Association, gave this rule for sizing the meat department in a new market:

For stores doing less than \$5,000 total weekly volume, figure the meat department will produce \$75 per week per lineal foot.

In stores doing from \$5,000 to \$10,000 weekly the meat department will produce \$100 weekly per lineal foot. In stores above \$10,000 weekly volume, the meat department will return \$150 per lineal foot.

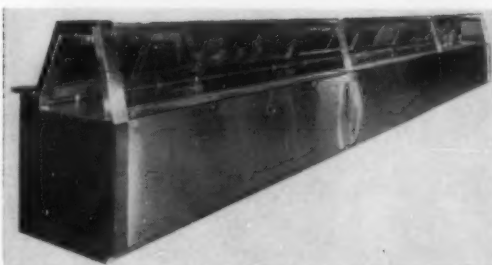
For computing meat packaging space, figure that one packing station—one girl wrapping meat that has already been cut into retail sizes—is capable of handling \$3,000 weekly meat volume.

One weighing station will handle approximately \$6,000 weekly volume, he added.

Ernst said that the use of red spotlights to enhance the red color of meat on display is good but it can be overdone. If too many lights are used, he said, the meat is given a false color that will not be there when the housewife unwraps the meat at home.

Fluorescent is the best light for the meat case, Ernst said. However, since fluorescent will not sparkle off cellophane packages like incandescent will, use a combination of both kinds of lamps, he advised.

Deluxe cool white is the best fluorescent color, Ernst said, adding that a red incandescent should never be used.



JOINT idea of Robert Stumph, operator of Kitchen Maid Meat chain, the Gloekler Refrigerator Co., and Norbert Rascher, Cleveland dealer, are these custom double and single duty stainless steel display cases.

Custom Meat Display Cases Feature Cool Lighting, Glass Tops, Fronts

ERIE, Pa.—Several branches of Kitchen Maid Meats are being equipped with specially designed stainless steel display cases.

The cases, both double and single duty, are the joint ideas of Robert Stumph, operator of the chain, and Gloekler Refrigerator Co., Erie, and Norbert Rascher, its Cleveland area dealer.

"Outstanding features of the

cases are the excellent cool interior lighting, full view provided customers by use of glass on both top and front, and crystal-clear lucite sliding rear doors," according to Gloekler. "The doors move speedily and easily and can be removed or left in the cases without affecting the refrigeration operation during peak selling hours.

"The cases can be operated as separate units or in a series

joined together. Some are self-contained while others are remote applications.

"They are being used in shopping plazas, neighborhood stores, and business districts, where Kitchen Maid Meats leases space from national chains."

Foster Exhibiting In 50 Shows In '57

HUDSON, N. Y.—Foster Refrigerator Corp. announced that it will exhibit in over 50 trade shows during 1957.

These shows will have a total attendance of over 750,000 people—almost all of them prospects for refrigerators and freezers for use in schools, restaurants, hotels, hospitals, bakeries, plants, institutions, etc., according to the company.

"Foster finds that trade shows are the best opportunities to combine a salesman's talk with an actual demonstration."

Dunham-Bush Names

Gair To Be Assistant Chief of Brunner

WEST HARTFORD, Conn.—Dunham-Bush, Inc. has announced the appointment of



Kenneth Gair as vice president and assistant general manager of The Brunner Co., Gainesville, Ga., a wholly owned subsidiary of Dunham-Bush.

Gair, who has an extensive background in engineering, sales, and management with several large companies, has been serving as plant manager for The Brunner Co. since December, 1955. Previously, he had been with Green Fuel Economizer Co., Beacon, N. Y., as vice president and general manager.

Supply Firm's New Offices Push Commercial Display

CHARLESTON, S. C.—The commercial refrigeration department of General Wholesale Corp. has been relocated in new offices at 361 Meeting St.

According to the management, included among features of the new location is a display room for market fixtures and commercial-type reach-in refrigerators and counter equipment. This room faces on the street. Storage, spare parts, and repair equipment is maintained in the rear area of the office.

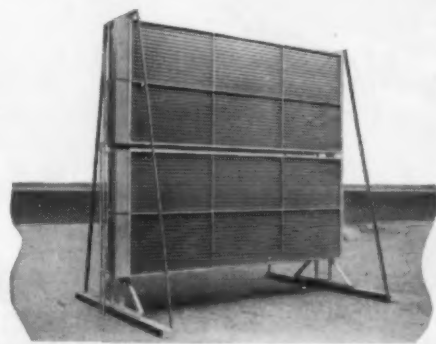
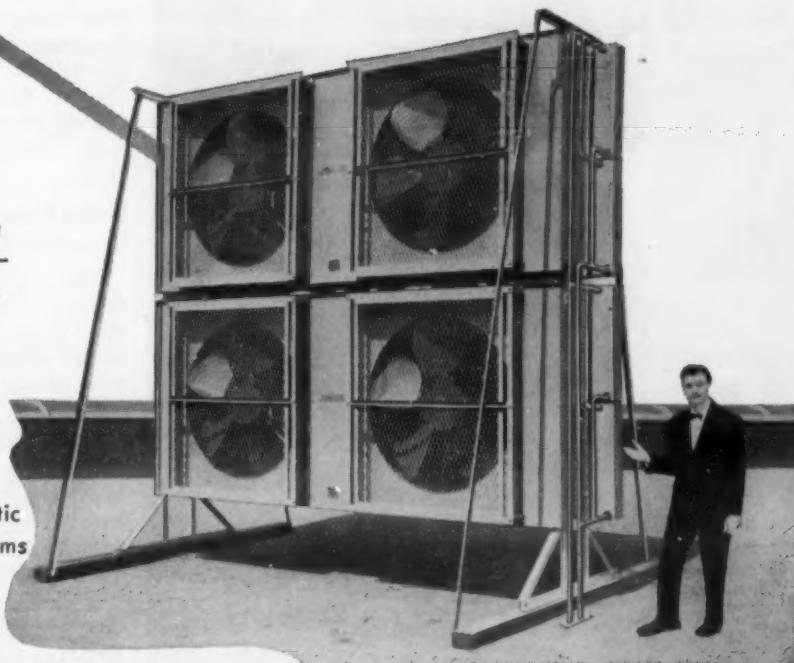
General Wholesale was organized in 1946 and inaugurated the sale of commercial refrigeration equipment in 1952. Charles Oliver is manager of the refrigeration department.

KRAMER UNICON

GETS BIGGER and

BIGGER

There is only one answer to large capacity condenser problems — the KRAMER UNICON. Every day more engineers plan larger tonnage installations — 50, 100 and even — 800 tons. And every day UNICONS are shipped to all parts of the world for giant-sized installations. No other air-cooled condenser can match the long, successful record of UNICON, backed by thousands of applications since 1937 — in the widest range of tonnages and climatic conditions. Your condensing problems can be best answered by use of the best — the KRAMER UNICON.



Space-saver UNICON, as illustrated, serves a 60-Ton air conditioning system, yet takes but 70 sq. ft. of roof space.

UNICON is a remote-type air-cooled condenser that requires no water. KRAMER UNICON can be used with any size compressor, REGARDLESS of horsepower. Any size refrigeration or air conditioning system can be air-cooled with UNICON, REGARDLESS of tonnage. UNICON requires less horsepower, less piping, is easier to install and costs less. KRAMER UNICON performs best — even in semi-tropical climates.

WRITE FOR BULLETIN U-210D

KRAMER TRENTON CO. • Trenton 5, N.J.

MARSH Instruments

THE SERVICEMAN LINE of Testing Gauges, Testing Thermometers, Timers, etc.

PRESSURE GAUGES and Dial Thermometers for all services.

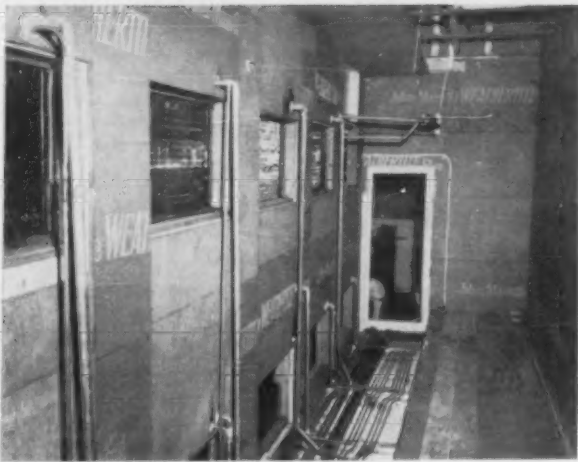
MARSH-ELECTRIMATIC, Water Regulating Valves, Solenoid Valves.

MARSH INSTRUMENT COMPANY

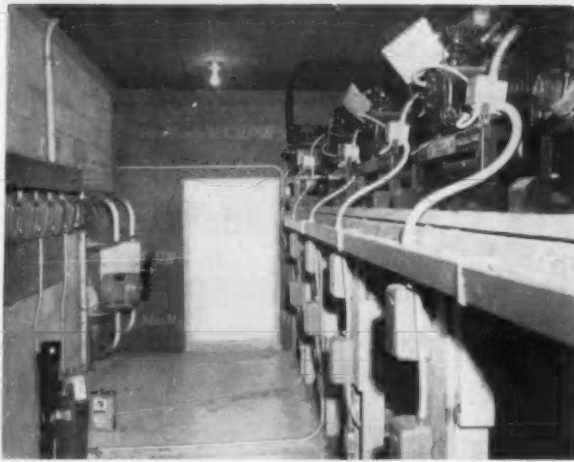
Sales Affiliate of Jas. P. Marsh Corporation

Dept. D., Skokie, Ill.

Store Tries All Air-Cooled Units To Cut Costs



VIEW OF INNER HALF OF compressor chamber in Joseph Food Town market in Toledo shows how dividing partition fits snugly around air-cooled condensers. Outside air is dumped into this area from the open area above the baffle seen at the top of the picture.



VIEW OF OUTER HALF OF the chamber shows what's on other side of the partition. Individual condenser fans draw air into this area. Air is expelled by 30,000 c.f.m. exhaust fan at left.



SELF-SERVE meat display features special lighting arrangement that directs white light to rear wall and pink light onto meat displays. Latter reduces discoloration. Doors to bloom box are seen in center.

Special Chambers Over Walk-In Coolers Channel Outside Air Over 28 Condensers

TOLEDO — Aiming to cut maintenance costs to a minimum, the new Joseph's Food Town supermarket here has installed 28 air-cooled condensing units to service its nearly 500 ft. of refrigerated display fixtures and six walk-in coolers.

The units are housed in specially constructed rooms atop two of the walk-in coolers. The rooms are laid out so as to channel sufficient air through them to keep the units operating satisfactorily even in the warm-

est weather, according to F. I. Davison of Davison Associates, the installing firm.

Initial cost of installation was less than it would have been with a remote, roof-mounted, air-cooled condenser or with a cooling tower. Maintenance costs should be considerably less, Davison believes.

'Should Be No Dirty Condenser Trouble'

Only maintenance required should be an occasional oiling of

the motors and changing the filter in the air supply duct. There should be no trouble with dirty condensers or the problems they cause, he indicated.

Caught in an unseasonal hot, humid spell in April, shortly after they were installed, the units received a good shake-down test and came through with flying colors, Davison said.

The condensing units, ranging from 1½ to 5 hp. each, were divided into two groups to shorten refrigerant line runs as much as possible. One group of 14 units is mounted above a produce cooler on one side of the store. An equal number are mounted above a meat walk-in at the rear.

The first group of units handles the frozen food and produce cases and the produce and beverage walk-ins. The other group serves the meat and dairy display fixtures, the meat and frozen food walk-ins, and the meat cutting and packaging room.

Units Housed In 'Insulite' Chamber

Each group is housed in a chamber fabricated from "Insulite" to shut out the noise of the compressors and to control the flow of air over the condensers.

In each chamber, the units are racked two high in a row down the center. An Insulite partition splits the chamber in two along the face of the condensers. The Insulite is fitted snugly around the condensers so

that the only way air can pass from one half of the chamber to the other is through the condensers.

The chamber over the produce cooler abuts the outer wall of the building. The partition runs parallel to the outside wall. The compressors are on the side adjacent to the wall.

Two louvered openings are cut through the outside wall, one at each end of the chamber, for intake and exhaust.

Through the intake opening, outside air is drawn through a filter bank, then through a duct up over the ceiling of the near half of the chamber, and dumped on the far side of the dividing partition. When the condenser fans operate, they draw this filtered air over the condensers and into the compressor half of the chamber.

Air Exhausted Outdoors

From here, the air, laden with heat from the condensers, is exhausted to the outdoors through the second opening by a 30,000 c.f.m. "Buffalo" fan. Vanes over this opening are automatically raised by the pressure of the exhaust air pushing against them. They automatically drop closed when the fan turns off.

A room thermostat in the

compressor area governs the operation of this fan and the vanes on the intake opening. When the room temperature rises above 80° F., the fan turns on and the intake vanes are mechanically opened. When the air temperature drops below 72° F., the fan turns off and the intake vanes are closed.

"During warm summer days, we expect the fan to operate all the time," Davison said. "On the other hand, in winter, it will operate hardly at all."

With all vanes closed and the exhaust fan off, the condenser fans alone will recirculate the room air until the temperature rises to 80° F.

The other chamber over the meat cooler operates in the same way. Only difference is that the exterior openings, instead of being in a wall, are in the roof. This is because this chamber is not located on an outside wall.

Both set-ups operate satisfactorily, and the owner is well pleased, Davison said.

Two doors, one on either side of the partition, provide access to the chambers. The doors are reached by a vertical ladder up the side of the cooler.

Servicemen found themselves

(Concluded on next page)

Remco Super-Flo Filter-Driers on the mass silver brazing line.

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90 FT. LONG double row of food cases for a total of 180 ft. of case breaks the frozen food bottleneck for Joseph. Produce department along wall is seen in background.



ROW OF ISLAND MEAT CASES set off meat department, call attention to specials, and encourage sale of related items. Note colorful drop curtain walls that recess wall display cases.

by a 40-ton UsAircro package unit. Air distribution is through a single duct running down the center of the ceiling toward the front of the store. Grilles on either side of the trunk and at the end throw cooled air out to the sides.

Return is through a large central grille in the rear wall of the sales area. This grille is artistically concealed by the use of modern shapes and colors which give the effect of a special design rather than a grille opening.

Cuts Maintenance--

(Concluded from preceding page)

faced with a problem when they climbed this ladder with a tool kit in hand. If the exhaust fan happened to be operating, it created such a suction on the doors that it was practically impossible to open them without serious danger of falling.

To avoid this, a switch was installed at the top of the ladder. It turns off the fan if it is operating. Then the doors open easily.

In addition to this air-cooled condenser set-up, the new Joseph Food Town offers other unusual features.

Other Features

The 120 by 200-ft. air conditioned market was planned to incorporate the latest merchandising techniques and handle a weekly volume in the neighborhood of \$100,000.

Located in the Woodville Shopping Center in southeast Toledo, it was completely laid out and equipped with Friedrich self-service fixtures by Davison. Over the past decade Davison has engineered and equipped all five of the Joseph markets here.

The store is air conditioned

Colorfully decorated "drop curtain" walls are used on either side and at the rear of the selling area to give a recessed effect to the refrigerated fixtures along the walls. They drop from the ceiling to about a 7-ft. height at a line with the front rail of the wall display cases.

A broad white plastic band at the bottom edge of the curtain wall identifies, in big black letters, the types of foods to be found immediately below. Recessed lighting under the curtain illuminates the contents.

Dual Lighting Over Meat Cases

Special dual lighting is used over the 95 ft. of self-service meat case along the rear wall of the sales area. A long row of white spotlights are focused back toward the wall, rather than down on the meats, for diffused illumination.

Directed downward at the meat displays are a row of special reflector pink lights that, Davison says, retard discoloration. They are adjustable in intensity to show the meats in their most appetizing light, he adds.

The Friedrich meat cases are



BIG WALK-IN, REACH-IN for bottled beverages permit speedy handling. Bottle returns are handled through the door at left. Customer can then easily serve herself, while the idea is fresh in her mind.

of the single duty type, having refrigerated display only—no storage.

A narrow aisle separates the meat cases from the rear wall. In the wall is a 13 by 4-ft. "bloom box" of the pass-through type. Butchers in the cutting and packaging room can store their finished production in the bloom box from the rear.

Clerks on the other side can take what they need to restock the displays from the front of the case. This arrangement saves a considerable amount of time and steps in loading the display cases and keeps the stock boys out of the way of shoppers.

"Meats in the bloom box can be stored at 30° F.," Davison pointed out, "a lower temperature than would be possible in the storage compartment of a double-duty meat case."

The broad aisle in front of the meat cases is bordered on the other side by a row of four self-contained island meat cases alternating with an equal number of non-refrigerated displays.

These island-type cases are used to display meat specials. They are made additionally attractive by having a box or bas-

ket in the middle of the case filled with some related non-refrigerated item, such as jars of mustard or pickles.

Along one side wall is the produce department, containing 63 ft. of refrigerated case plus additional non-refrigerated case. Across the aisle from it stretches a double row of island type frozen food case 90 ft. long—180 ft. of case in all.

On this same side of the store at the front stands a 14 by 12-ft. reach-in, walk-in beverage refrigerator for display and storage of bottled soft drinks.

Right next to it is a room for the storage of empties. The customer can get rid of her old bottles, receive a credit slip for them, and lay in a new supply all at one time.

On the opposite wall are lined 63 ft. of dairy self-service cases, plus 30 ft. of additional meat case. The dairy cases are of the single, low-lying display shelf type with a double deck superstructure devoted to related non-refrigerated items.

The management prefers this type of case, Davison said, because of the additional display space it offers as well as large capacity in the refrigerated section.

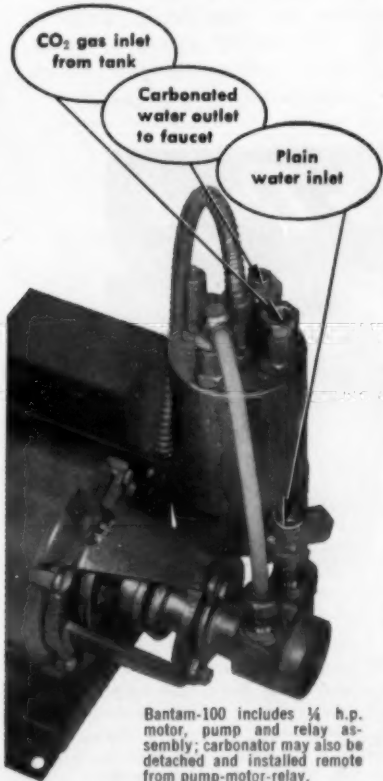
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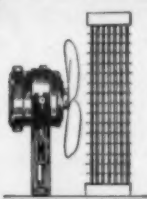
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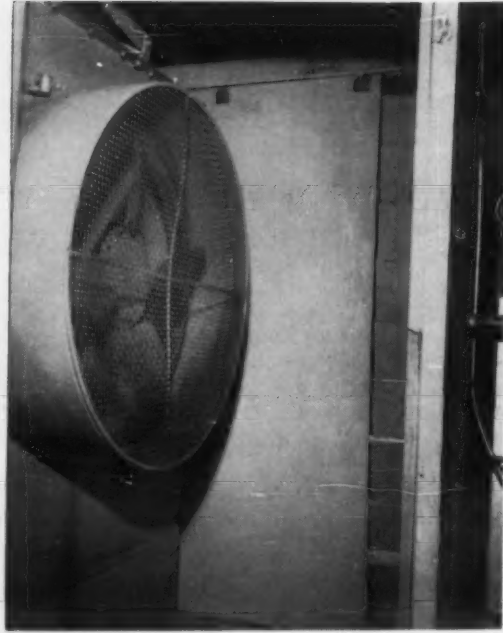
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BEHIND THIS PLYWOOD enclosure in the back room of Felice's Quality Market in Pontiac works a 30-ton cross flow cooling tower. It provides cooling water for eight condensing units stacked just out of the picture to the right.



THIS IS WHAT YOU WOULD SEE looking through the door in the center of the picture to the left. Note sliding door that adjusts air flow through louvered opening in rear wall.



FROM THE OUTSIDE, these screened slots are the only evidence that a cooling tower is at work inside.



40 FT. OF FROZEN FOOD case in Felice's new market represents a 300% increase in space allotted to frozen items—a specialty of the store.

Contractor Tries Something Different

1. Puts Cooling Tower In Back Room 2. 1-Hp. Pump Supplies Water for 6 Units

By George M. Hanning

PONTIAC, Mich.—Something a little different in the way of water cooling equipment installations have been made in two markets here by Jack Sandefur, manager of P. E. Daubenspeck, Inc., commercial refrigeration equipment distributor here.

One was a neat indoor installation of a cooling tower in Felice's Quality Market on Telegraph Rd. The other was a water-saving "waste-water" installation at the new Food Town Inc., commercial refrigeration at M-59 at Williams Lake Rd. At Felice's market, which

was opened earlier this year, Sandefur installed a 30-ton Marley cross flow cooling tower against the rear wall right next to the eight condensing units serving the store's refrigerated fixtures.

The condensing units, totaling 15 hp., are stacked three high on a home-made rack. They take up only 11 ft. of floor space, which is at a premium in the crowded back room, Sandefur noted.

Two vertical slots, about 6 ft. tall and 2 ft. wide, were cut through the rear wall, one on each side of the cooling tower. These openings were filled with metal slats, slanting upward at 45° angles. The outer surface was covered by screening to keep out insects and smaller animals.

Outside air is drawn through one of the slots, passes through the cooling tower, and is exhausted through the other slot. While the incoming air is not filtered at present, that may have to be done later if dust conditions develop, Sandefur commented.

Sliding Doors Regulate Air Flow

On the inner side of the wall, two sliding doors are mounted. These can roll across the slot openings to regulate the flow of air over the tower as may be desired.

To make sure that only outside air is used, the entire tower is enclosed in a plywood housing. Doors at each end permit access to the tower and to the sliding doors over the slots.

The housing not only conceals the tower, but permits use of the space overhead to store cartons of light commodities, such as paper goods and soap chips.

A 30-ton tower was installed, Sandefur explained, because the store owners anticipate air conditioning the building in the near future. They wanted the tower to have sufficient capacity to handle the combined load.

Sandefur noted that the Felices—Father Joseph and sons Paul and Jim—have built their

business on a wide selection of frozen foods and produce.

Their new, larger store measures some 57 by 95 ft. They have taken advantage of the additional space to expand their frozen food space and also their produce department.

Quadruples Frozen Food Department

The frozen food department is the first that the shopper visits. It contains 40 ft. of Hussmann self-service cases as compared with 10 ft. in the old store.

"And there still isn't enough display space for all the frozen items the Felice's handle," Sandefur commented.

Last place in the store that shoppers visit is the produce department, where another 40 ft. of Hussmann display cases are located. Half of them are refrigerated.

Other refrigerated equipment in the store—some of it new, some moved from the old store

—includes 24 ft. of dairy display, 20 ft. of service meat cases, 10 ft. of self-service meat case, and a 16-ft. upright beer case.

In the back room are two 10 by 12-ft. walk-in coolers; one for meats and one for produce.

At the Food Town market, in the heart of a growing lake resort area west of Pontiac, Sandefur installed the condensing units for the store's refrigerated fixtures in an attached machinery room at the rear of the building.

Here six condensing units with a total capacity of 24½ hp. are mounted two high. Water to cool them is pumped from a well. It is drained through an underground pipe to an open sump beyond the parking lot.

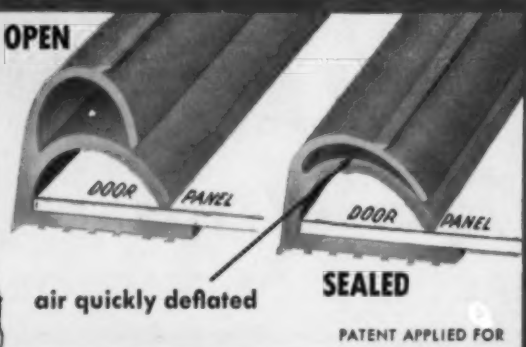
Sandefur pointed out that only a small trickle of water empties into the drain. Only a 1-hp. circulating pump is used.

"These units operate at a (Concluded on next page)

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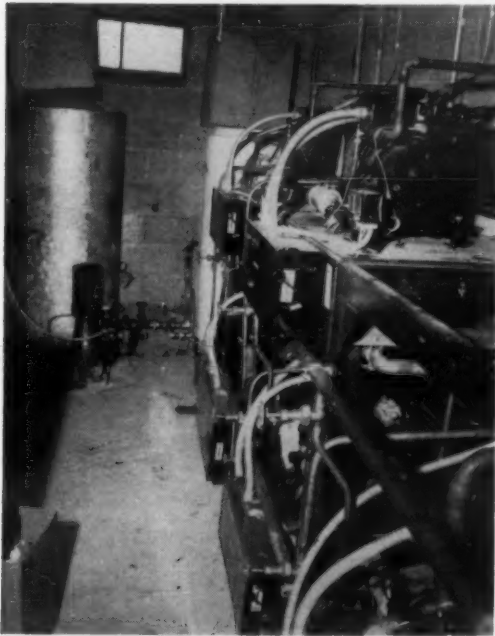


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1-HP. CIRCULATING pump (l.) provides all the water necessary to cool 24 1/2 hp. in condensing units. The water temperature rises 55° before water trickles down the drain in center of picture.

Trickle Does Lot of Cooling--

(Concluded from preceding page) folded so that any one unit can be cut out without affecting the distribution of water to the others, he noted.

Food Town, a larger market than Felice's, puts its emphasis on its quality meats. An attractive white enameled walk-in, reach beer cooler with stainless steel "Servue" doors at one end of the meat department attracts shoppers to the rear of the store. There they find spread before them 56 running feet of self-service meats in mirror-backed Hussmann cases.

Signs posted on the mirror assure shoppers that all meats displayed are U. S. prime or

choice. Another sign carries a large photograph of the meat department manager. His name is given below the picture. Shoppers are invited to call him for any service they desire.

Other features that make the Food Town market—planned by Sandefur — particularly attractive are wide-spaced shopping aisles, an expansive produce department, and a large open area in front of the check-out counters. The open area permits traffic to readily move between aisles without plowing through lines of shoppers waiting to check-out.

The usual floor to ceiling windows along the front of the market are eliminated here. Windows are set high, with the lower 6 ft. a solid wall.

"This provides extra productive space for displaying goods," Sandefur noted. "Window displays are no longer important in food markets," he believes, "and the store might just as well turn that space into profitable selling area."

Offers Idea on Food Display

Sandefur has a theory about food display that he would like to convince a food store operator to try some time.

Observation of the habits of food shoppers, he says, convinces him that when a woman seizes her food cart, she pushes it some 15 or 20 ft. into the store before she makes her first selection.

For that reason, Sandefur argues with grocers who want to put their high profit merchandise up front in the first aisle. He believes they should put soap chips or shortening up front. Then they can follow with high profit items.

"I believe this for two rea-

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"HAVE SOME" invites Vic Mason, assistant manager of Food Town market near Pontiac, Mich. Beer cooler catches patrons' eyes as they first enter store and leads them to self-service meat department. Food Town emphasizes its quality meats, displaying them in 55 ft. of mirror-backed cases.

sons," he asserted. "One is that if the woman zips by the display without picking up a box of soap chips, the grocer has lost nothing profit-wise.

"The other is that women are very familiar with the price of soap chips or shortening. Many, coming into an unfamiliar store, will pick up a box of soap chips, just to check the price.

"If the price is in line, she will then continue her shopping, confident that other prices in the store will also be in line. If soap prices are out of line, she will suspect all other prices. I have seen this happen often.

"Thus, a display of these familiar staples right at the beginning of her shopping tour will not only start the woman shopping sooner, but they will give her confidence that she is getting her money's worth."

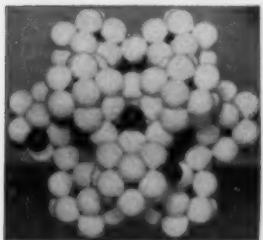
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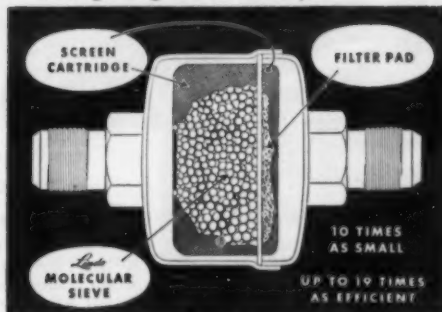


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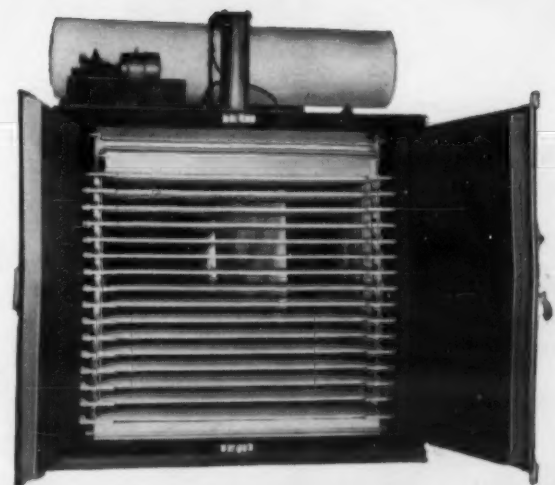


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(For Additional Information on the products that were shown at the Grocers Show in Chicago please use Key Number and "Information Center" blank on page 26.)



KEY NO. G-6414

OPEN VIEW, SELF-CONTAINED ice cream and frozen food display case by Friedrich Refrigerators, Inc. keeps ice cream solid, John R. Goodwin, (l.) of Goodwin Shelving Co., Madison, Wis. finds. Ray Crump, Friedrich regional sales manager in Cleveland, points out case has night cover and electric defrost.



KEY NO. G-6417

NEW 6-FT. SELF-contained frozen food case with automatic defrost captures the attention of grocers Lloyd Copeland (l.) and Harold Aldrich (c.) of Tampa, Fla. They get a pitch from Bill Gallagher of Tyler Refrigeration Corp. (r.)



KEY NO. G-6415

QUART MILK CARTONS easily stack three high in bottom of new McCray 8-ft. dairy case, W. L. Herald, ad manager of McCray Refrigerator Co. demonstrates.



KEY NO. G-6416

DAZZLING REACH-IN WALL CASE for dairy products and beverages blinds Larry Paole, Chicago representative for Evans Mfg. Corp. Joseph Eventoff, company president, says 4½-ft. case on left and 6-ft. case on right have self-defrosting blower.



KEY NO. G-6418

"GONDOLETTE" for end-aisle display of hams and other items needing refrigeration was exhibited by C. V. Hill & Co. Shelves are tiltable, adjustable, and removable, Monroe Schellinger of Hill (l.) tells A. C. Shue, York, Pa. grocer.



KEY NO. G-6419

PLENTY OF DISPLAY ROOM for the small grocer is offered on the new Federal Refrigerator Mfg. Co.'s 8-ft. frozen food and ice cream case. The three merchandising shelves atop the case are adjustable, A. T. Mickle, Federal sales manager (l.), tells Harry Sepuha of Red-E-Cold Refrigeration Co. of Chicago.



KEY NO. G-6420

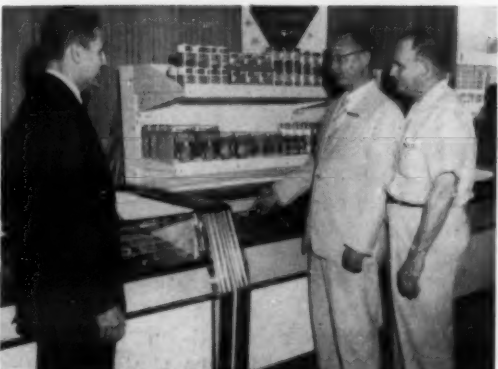
FRESH MEATS RETAIN their red color when blast frozen in new "Iceberg" sharp freezer. Robert Ayres, president of Blast Freeze Corp. (l.) shows Joe Feudo, Corpus Christi, Texas food merchant.



KEY NO. G-6421—LOADING UP TOP DECK of new Weber double deck frozen food case is Keith Packard of Weber Showcase & Fixture Co., Inc.'s Grand Rapids, Mich. factory. In a 10-ft. length, the case will hold 1,564 packages of frozen foods. Capacity is 31.8 cu. ft.

KEY NO. G-6422

CLEAR VISION FRONT and three adjustable, non-refrigerated shelves in the super-structure are features of Hussmann Refrigeration, Inc. frozen food case, C. A. Putnam, (l.) Jackson, Mich. grocer, hears from Don Minshall, company representative in Brantford, Ont., Can.



KEY NO. G-6423—NO THERMOPANE FRONT and 2-in. wider color band are features of the new "X" line of frozen food cases shown publicly for the first time by Warren Refrigerator Co. Warren's David Ingram (c.) points out differences on meat case at left to J. P. Sartalamachia (l.) and A. L. Keller, both New Orleans grocers.

BUSINESS OPPORTUNITY

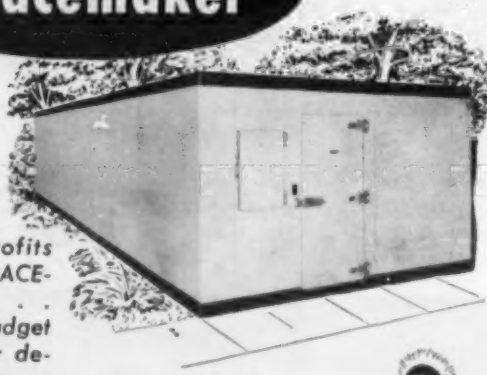
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EVANSVILLE 7

INDIANA



VOLUME-BUILDER ice cream merchandiser now available from Kelvinator is claimed to boost sales of ice cream desserts in cafeterias and restaurants. The entire superstructure with specially-designed baskets fits into standard Kelvinator four-hole cabinets, is suitable for cafeterias, schools, restaurants, theaters, and in-plant feeding.

See Boon for Eating Establishments

Pre-Dipped Ice Cream Desserts Shown Off In Merchandising Unit Baskets

DETROIT — Kelvinator has announced a new, "volume-builder" merchandising unit for displaying and selling pre-dipped ice cream in cafeterias and restaurants.

Don H. Carter, manager of Kelvinator's ice cream cabinet division, said the effectiveness of this new unit, now available "is dramatically contained in reports from test areas, where gallonage increases ranged from 100% to 300% in cafeterias, and from 40% to 60% in restaurants.

'CUSTOMERS MUST SEE DESSERTS'

"The cafeteria industry has been asking for this type of equipment for a long time, in order to boost its ice cream dessert sales, quickly and economically. However, customers must be able to see desserts for effective self-serve merchandising.

"Consequently, the pre-dipped ice cream must be shown in the chamber guard section of an ice cream cabinet, and temperatures

in this section must be lowered to a safe preservative temperature. The new merchandising unit provides safety, accessibility, convenience, and most important—profits," Carter said.

A set of thermo plates installed in a Kelvinator standard 4-hole ice cream cabinet "lower the temperature to a perfect eating temperature of from 5 to 8° above zero," it was stated. Special sets of thermo plates are also available for 6 and 8-hole Kelvinator cabinets.

The pre-dipped desserts are placed in specially-developed baskets for storage and display. These baskets will hold 10 to 20 desserts, depending upon the diameter of the dishes used. The baskets are racked, one on top of the other. A standard ice cream cabinet will hold six baskets in a deep sleeve and three in a shallow sleeve.

When the top basket is empty, it may be easily removed and a lower basket raised to the merchandising position. Patented handles in each basket are used to lift them into position.

DESIGN SPECIAL SUPERSTRUCTURE

Because health department regulations require sneeze guards for all food displayed in a dish, and because it is necessary to baffle the flow of air over the cabinet top to maintain proper temperatures, a special superstructure was designed to fulfill these requirements in the cafeteria installations.

The stainless steel superstructure with plastic sneeze guard is open in the front for full view selection, and is accessible from the back for loading.

"In restaurants, the merchandising unit is simplified because customers are served by waitresses from a dipping cabinet located in the kitchen or some out-of-sight locations," it was noted. "The cabinets are set approximately 6° above zero and are equipped with standard solid lids. The top basket is not moved into the chamber guard position, and there is no need for the thermoplates or superstructure.

"Dipping of the ice cream desserts is done before rush periods or during lulls."

Frozen Courses Steaming Hot Provided at Push of A Button by In-Plant 'Kwik Kafeteria' Battery

Holds Pre-Cooked Food At 32-40° to Mealtime

HATBORO, Pa.—A new automatic cafeteria manufactured by Rudd-Melikian, Inc. will serve a complete meal, from appetizer to dessert, "in a matter of seconds," according to the company.

Designed to meet the needs of office and in-plant workers, the equipment serves juices, soups, chicken and beef pies, salads, spaghetti and meat balls, pastries, coffee, and many other foods "at the touch of a button."

Called "Kwik Kafeteria," the modular battery consists of a hot plate vendor, a hot can machine, and a sandwich-pastry bun unit. Full production is slated after tests have been made in key cities. At that time, prices and sales policies will be announced.

2 HOT LUNCH SELECTIONS

The hot lunch or dinner unit has two selections, with a capacity of 22 food packages. Commodities weighing from 4 to 16 ozs., packed in 5-in. by 1½-in. aluminum foil containers, with an aluminum cover which tears off, can be vended.

Pre-cooked foods are held from 32 to 40° until meal time, when the foods are heated to pre-set temperature. The hot temperatures are maintained during meal times, with the unsold foods returned to refrigeration temperature at the end of the meal period. The machine is adjustable to skip holidays or weekends.

Each column can vend at a separate price and coins may be accepted only during the predetermined meal time. The machine is loaded from the front.

Cabinet is steel with completely hinged front and back. Frame is welded steel. High temperature limit is 300° F.

6 SEC. DELIVERY

Delivery cycle time is six seconds, with the average heating time for 22 8-oz. servings at 38 to 180° one hour. Dimensions are 81 in. high, 14 in. wide, 22 in. deep at the floor, 32 in. deep at the serving shelf, and 30 in. from the floor to the top of the serving shelf. The two other units have the same dimensions and appearance so that when they are placed side by side they give the impression of one unit.

The hot canned food machine offers four selections with a total capacity of 104 cans. The insulated oven permits placement of the machine next to a refrigerated unit.

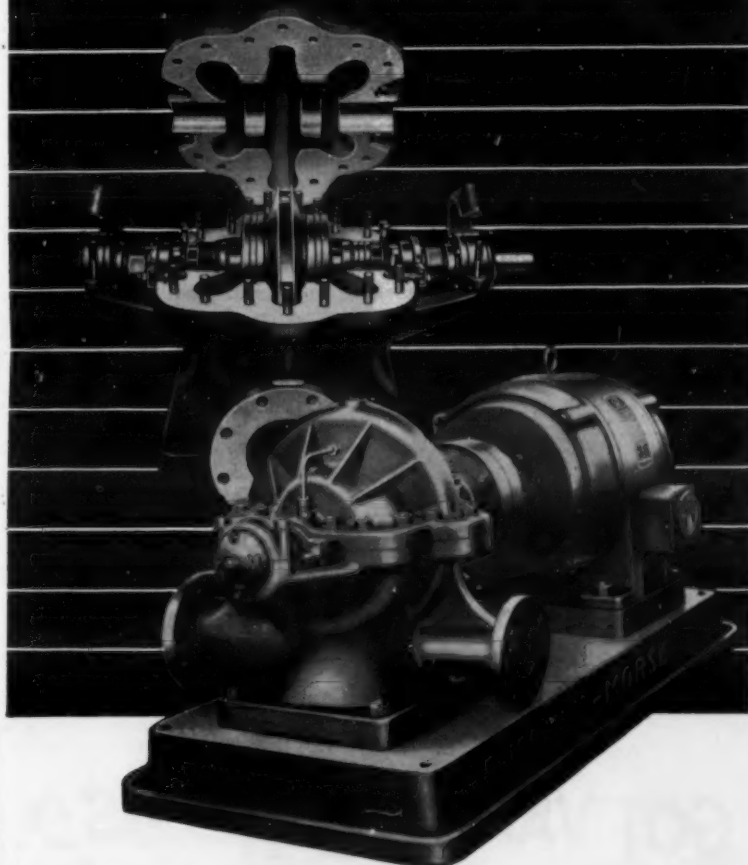
The sandwich, bun, or pastry vendor has two columns, each one with a capacity of 25 products. It vends any commodity which fits into a 4½ by 4½ by 1½ box. The refrigeration unit is ½ hp., self-defrosting, and has a controlled temperature of 40°.

Like the hot plate vendor, the sandwich machine can be put next to an auxiliary unit—with another two selections—working from the same master unit and coin mechanism.



PUSHBUTTON cafeteria: A new automatic cafeteria made by Rudd-Melikian, Inc., Hatboro, Pa. can serve a complete meal, from appetizer to dessert, in seconds. The modular battery unit called "Kwik Kafeteria" provides frozen courses steaming hot at the touch of a button.

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Servicing Automobile Air Conditioners

(Vol. 2)

BY C. DALE MERICLE

In response to numerous requests, the NEWS is resuming the popular series on automobile air conditioners. Latest models (1956 and/or 1957) of makes covered in the earlier articles, plus additional ones, will be included in this new series, which will describe units of leading "independent" producers as well as automobile manufacturers.

Readers wishing data on earlier models are referred to the first series, which appeared in weekly issues of the NEWS from June 13, 1955, through June 4, 1956, or the handy manual "Servicing Automobile Air Conditioners."

The new series, like the first, is not intended for the amateur or novice but for the qualified refrigeration mechanic well grounded in theory and practice. Thus, the series presents a detailed description of major components and normal operation of each model, but merely outlines service procedures. Those interested in fundamentals of air conditioning and refrigeration should read the numerous other manuals in The Refrigeration Library.

A. R. A. (1)

A.R.A. Mfg. Co.
P.O. Box 1636
Fort Worth 7, Texas

Three models of automobile air conditioners for standard cars were produced in 1956 by A.R.A. These were designated as the "Direct-Aire," the "President," and the "Executive."

In addition, the company produced in 1956 and 1957 an overhead type unit for station wagons, a dual system for ambulance application, a truck cab system, and a special custom

model for Ford Thunderbirds. Standard models in 1957 were the Direct-Aire and President models.

In all models condenser is located in front of car radiator and compressor is belt driven off the car engine.

Evaporator assembly of Direct-Aire units, Thunderbird, and truck cab models is installed under the instrument panel in the passenger compartment. Evaporator assembly of President and Executive models is located in trunk of car.

An overhead evaporator assembly is employed in station wagons. For ambulances two Direct-Aire type evaporator assemblies are used, one mounted under the dash to cool the driver's compartment, a second mounted in the wall behind the driver to cool the patient's compartment.

Refrigerant-12 is used in all A.R.A. models.

Compressor

All 1956 and 1957 A.R.A. conditioners are equipped with the Lehigh V-93 compressor. This is a four-cylinder v-type compressor equipped with a

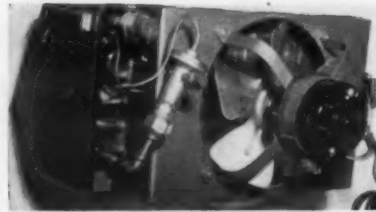


FIG. 1—Rear view of 1956 "Direct-Aire" unit, A.R.A.'s under-dash conditioner.

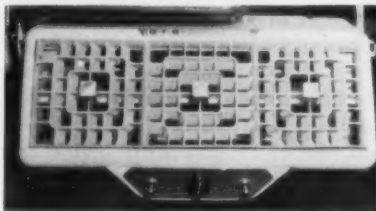


FIG. 2—1957 "Direct-Aire" unit has controls on front of cooling coil housing.

positive displacement gear type oil pump to provide pressure lubrication to all parts.

Because of the oil pump, direction of rotation is most important. Improper lubrication and bearing failure will result if the rotation is opposite from that indicated by arrow cast into the end plate.

Suction service valve is located on top between the two cylinder heads; discharge service valve is at end opposite the fly-wheel.

A Warner SF-660 magnetic clutch is used on all 1956 and 1957 A.R.A. models, being attached directly to the V-93 compressor.

Condenser

Condenser, located in front of the car radiator, consists of aluminum fins on copper tubing.

A one-row condenser was used on 1956 models. A two-row condenser is standard for 1957 models, the additional surface being said to lower operating pressures.

A combination receiver, drier, filter, and sight glass is incorporated on all 1956 and 1957 A.R.A. conditioners.

Evaporator

Cooling case assembly of the 1956 Direct-Aire under-dash unit, Fig. 1, is 14 $\frac{1}{2}$ in. long, 7 $\frac{3}{4}$ in. high, and 14 in. deep.

It contains a four-row evaporator, an A-P 206-C thermostatic expansion valve, Ranco Type "A" control, drip pan, 7-in. diameter aluminum propeller fan, two-speed fan motor operating at 1,500 r.p.m. on low speed, 2,700 r.p.m. on high speed,



FIG. 3—1956 "President" model mounts in trunk of car.

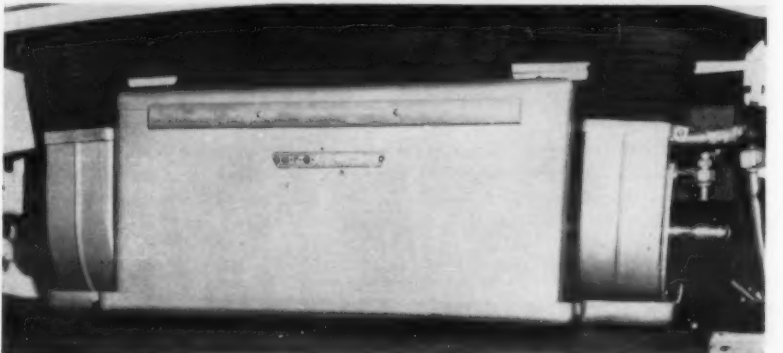


FIG. 4—Restyling of "President" cooling case assembly is noted in 1957 model.

three molded plastic discharge grilles on front of assembly, and a control panel on driver's side. The three plastic discharge grilles are spring loaded and can be adjusted individually to four 90° positions to control direction of air delivery.

The 1957 Direct-Aire under-dash cooling case assembly, Fig. 2, is basically the same as the 1956 model. Height of the case, however, has been cut 1 in. to 6 $\frac{3}{4}$ in., fan diameter reduced from 7 in. to 6 $\frac{1}{2}$ in., and controls have been centered on lower front panel.

Return air intake is at rear of unit (towards front of car). (Continued on next page)

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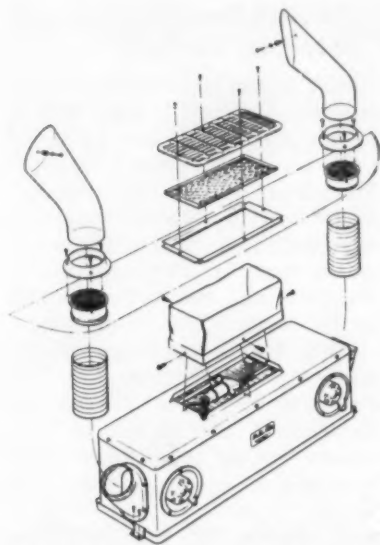


FIG. 5—Exploded view shows duct connections and cooling case assembly of 1956 "Executive" model.

Air Conditioners --

(Continued from preceding page)

The 1957 Direct-Aire unit also includes adjustment knob of thermostatic control on the front panel.

Trunk-mounted President (1956 and 1957), Figs. 3 and 4, and Executive (1956) models, Fig. 5, include in the cooling case assembly the evaporator coil, two centrifugal blowers, thermostatic expansion valve, drip pan, and (in the 1956 Executive and 1957 President) Ranco thermostatic control.

Blowers are at left and right sides of cooling case assembly, being ducted up to plastic discharge outlets attached to parcel shelf directly above. Return air intake is in center of parcel shelf.

Coil of 1957 President has five staggered rows and is divided into four circuits supplied by a pressure-type distributor controlled by an A-P 206-JEE thermostatic expansion valve with external equalizer.

(To Be Continued)

To Cool School Bldg.

OKLAHOMA CITY — A contract for \$115,342 has been awarded to W. A. Landers Co. here for air conditioning the Administration building of the City's school system.

Reader Reactions!

3 'Manpowers' Air Views on Why Industry Suffers Serious Shortage

30-Year Man Vainly Seeks Job Like Those Offered 'Wet Behind the Ear' College Kids

Editor's Note: On this page the NEWS presents views of three men in the field on a topic which is vital to all segments of the industry—manpower shortage. Without qualified men to install and service refrigeration and air conditioning equipment everyone from manufacturer to consumer stands to suffer. The letters were occasioned by previous article in the NEWS.

Columbus, Ohio

Editor:

Your editorial titled "Chief Problem of Industry Growth: Where Will We Get The Manpower?" should be circulated far and wide in EVERY industry and business. In no other respect has American business shown such short sightedness as the setting of arbitrary age limitations.

I am not a college graduate and I will be 50 in about a month. I got "bumped" because of a reorganization and even though I can offer 30 years of

experience in dealing with people as a business administrator, sales manager, service manager, and successful selling of both tangibles and intangibles I cannot even rate a job comparable to those being offered to "wet behind the ear" kids just coming out of college, and business and industry representatives are standing in line to hire these boys before they have graduated.

I would like to obtain a quantity of reprints of this editorial to submit a copy to local newspaper editors.

(Name withheld on request)

Higher Pay Is Key To Service Engineer Shortage Problem, 22-Year Man Believes

New York, N. Y.

Editor:

My sincerest thanks to Mr. J. A. McGrath who, in a letter, which appeared in the March 18, 1957 "Show Case" issue, struck a blow at the heart of the, *Service Engineer shortage problem*.

He stated, amongst other very pertinent things, that—"I just can't hang around waiting for the proper reward."

He meant I believe, that his weekly salary was too inadequate—in exchange for *Brain power, Effort, Time, and Responsibility* one must give (and I might add, is expected to give) to his employer, in this service field.

As a result of the low pay, this man no longer practices the profession he spent 11 years perfecting.

In other fields (mechanical) with less strain on the *Brain, less Effort, less Time and Responsibility*, we can make double and in some instances, more than double the weekly pay of a "Thoroughly Experienced" refrigeration and air conditioning service engineer.

Not that this combination, *Brain power, Effort, Time and Responsibility*, (which make up part of the quality of a good serviceman) aren't given gladly in this field of ours, Oh no—because there things are paid for by the personal satisfaction one gets from "A job well again."

Why don't the prominent and responsible men in our industry who write articles, (that appear in our fine "Newspaper") about this shortage, stop beating about the bush and get to the heart of the problem.

Wages, pay salary, call it what you will, I believe the main answer to this manpower shortage lies there.

With the all out effort of the NEWS and other forward looking men in our industry, the Refrigeration and Air Conditioning Service Engineer will find his place in the Sun.

I have been a service engineer in the commercial refrigeration and air conditioning field in New York City for over 22 years and I am proud to be a member of this great, growing industry.

JOSEPH G. KEOGH

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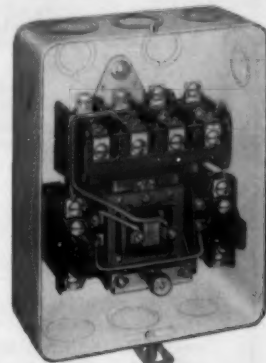
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Manufacturers of flexible metal hose and conduit, expansion joints, metallic bellows and assemblies of these components.
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**PARTS
and
Supplies**

Heat Wave Spurs Air Conditioner Sales In North--

(Continued from Page 1, Col. 5)

While the effect of the heat wave was most spectacular for room air conditioners, its influence was quite noticeable on commercial packaged and residential sales, reports indicate.

The sudden strike of hot weather brought power shortages in Chicago and New York, though Detroit was able to handle the load comfortably.

Record 1-Day's Use of Electricity

In New York City, Consolidated Edison Co. set a record for use of electricity on Tuesday, June 18. Air conditioning alone, the company estimated, required 850,000 kw. at one time, up 17% from the peak a year ago. It represents 23% of the utility's total capacity.

A spot survey by the NEWS in New York City, Chicago, Detroit, and other metropolitan centers brought this response from air conditioning distributors and dealers:

In New York City, Frank

Teofani of Carleton-Stuart, Carrier distributor, described the room unit rush as "more dramatic" than in 1956.

He said that room unit sales—behind about 30% from last year before the heat wave—were approaching 1956 figures by Wednesday of last week. Another day or two of the same weather, he said, and room unit sales should draw abreast and even surpass 1956.

Distributor Gets 3,000 Orders In Single Day

A spokesman for L & P Electric, Fedders distributor, reported that the week ending Wednesday, June 19, brought sales of 11,000 room air conditioners. Best single day's orders were for June 18 when 3,000 orders flowed in. Best previous day last year was 2,070 orders.

Residential unit sales started to pick up also, with prices holding steady, he added.

Sees '57 Sales Topping '56

Ned Foulds, New York area regional manager for Airtemp, believed that 1957 sales should exceed 1956 if the heat spell continues for any length of time.

He pointed out that the mid-June hot spell last year was followed by a cool end of the month and a cool start for July. A hotter close to June and a blistering early July should put the industry well over 1956 figures, he asserted.

In the residential field, sales had lagged before the heat wave, though new homes in the

"better" price bracket stood up "almost as well as 1956" he declared. Commercial sales had not lagged as much as residential and room unit sales, he said.

A poll of several dealers in New York City by sales officials of Carrier Corp. revealed that room air conditioners were selling at a brisk pace. The retailers reported that sales in five hours last Monday were equal to the volume recorded in the week ended June 10—the best full week thus far this year.

A Carrier distributor in Washington sold as many room units in a three-day period as during the previous three weeks, it was said.

In New York, the biggest sellers among room units appeared to be the $\frac{3}{4}$ and 1-hp. units, though no specific figures were available. Macy's department store was reported to have sold 400 room coolers in a single day.

As in other cities, heavy newspaper advertising on air conditioners did not break until after the heat spell lasted for a day or two. Results were said to be very good.

Some Ready for Rush

Some distributors and manufacturers, learning something from previous experience, were ready for the deluge of orders that hit them, it was reported.

Prices were said to be holding at or near those advertised all spring, with perhaps an average \$5 per unit boost. Premiums were being paid for "same day" installation.

Some distributors expressed

the opinion that the heat wave will rekindle the fire on consumer demand and push some of the survey jobs into orders and installations. It may also, they hoped, serve to convince the residential cooling dealer that he is in a good business and spur him to greater efforts.

As expected, service and installation personnel have not been able to keep up with the rush of orders. This applies to packaged as well as residential equipment.

One dealer was reported to have offered \$60 per job to check out and start up two installations he had made earlier.

In Chicago, the hot spell broke some records on some days when the thermometer jumped over 95° F., but it ended abruptly when a cold front from Canada moved in June 18. However, it had plenty of immediate—and some believe long range—effects while it lasted.

'Sold Half Room Unit Inventory In Wave'

"We wiped out half our room cooler inventory," said Better Home Appliance Co. Sales of room air conditioners by Carson Pirie Scott & Co., Loop department store, on Monday, June 17 were said to have been the equal of the total for 10 previous selling days, and the store was said to be doing some re-ordering.

Polk Bros., appliance chain, made an other through a TV program to "man its phones throughout the night" to take orders for air conditioners, and was said to have made sales of nearly 25 units on the basis of such offers by the following noon.

But the heat brought problems to Chicago dealers and contractors. The Commonwealth Edison Co., in order to stretch its power supply when demand set an all-time high record for

(Concluded on next page)

Government Contracts

SYNOPSIS OF PROPOSED PROCUREMENT

NOTICE TO SMALL FIRMS

Procurement Office, Langley Air Force Base, Va. AIR CONDITIONING General Officers Quarters Nrs. 145 thru 516, Langley Air Force Base, Va., Item 1, Quarters 145 thru 149 and 151 thru 156, Item 2, Quarters 150—Job—IFB 44-600-57-104—Bid Opening 25 June 57.

Purchasing and Contracting Office, Fort Eustis, Va. REHABILITATION OF REFRIGERATION AND INSTALLING CONTROLS AND AN ALARM SYSTEM for Automatic Operation of the Cold Storage Plant, Fort Story, Va.—Job—IFB TC-44-019-57-192—Bid Opening 25 June 57.

ARMY

HQ., U. S. Army Military District, 2-8&59, Purchasing and Contracting Division, Fort Lawton, Wash. REPLACEMENT OF WARM AIR FURNACES, 500 area, Fort Lawton, Wash.—5 Bldgs.—IFB AVI-45-012-57-89—Bid Opening 25 June 57.

NAVY

U. S. Naval Air Station, Patuxent River, Md., Supply & Fiscal Dept., Naval Air Station, Patuxent River, Md.

REFRIGERATORS, suitable for installation in radar picket aircraft, similar or equal to Dale Sales, Inc., Model SR-10. Refrigerators to be in accordance with the following specific requirements: 1. Refrigerated space of approx. 10 cu. ft. consisting of 2 sections. Upper section of approx. 6 cu. ft. capable of holding a temperature of 5° F., but adjustable to RP degrees F., and a lower section of approx. 4 cu. ft. capable of holding a temp. of -40° F. 2. Upper compartment to be equipped with shelves designed for maximum accommodation of frozen meal packages whose size is approx. 6½" x 8½" x 1¼". Lower compartment to provide 2 shelves plus space for "Tall" storage to accommodate at least one qt. bottles. 3. Outside dim. to be not greater than 60" high x 24" deep, plus refrigeration unit located in back of the box. The refrigeration unit shall not be more than 25" high, 24" wide x 11" deep. 4. The refrigeration shall operate on 24-48 volt d.c. current and the electrical system, insofar as radio interference is concerned, shall conform to Spec. AM-31-40, Para. F5F (1) B & F5F (2)—22 ea.—IFB 421-98-57—Bid Opening 24 June 57.

Purchasing and Contracting Section, Base Materiel Bldg., 1005 Marine Corps Base, Camp Lejeune, N. C.

The following items are procured under IFB 6110-57—Bid Opening 27 June 57. ROOM TYPE AIR CONDITIONING UNITS, self-contained hermetic refrigerant circuit, Type 1, in accordance with Fed. Spec. 00-A-372 dated 26 July 51 and Amend. 1, dated 20 May 52. Item 1) ¼ hp. not less than 8,000 B.t.u., 40 ea.—(Item 2) 1½ hp. not less than 15,000 B.t.u., 40 ea.—(Item 3) 2 hp. not less than 20,000 B.t.u., 2 ea.

AIR FORCE

Base Procurement Office, Charles Air Force Base, Lake Charles, La. INSTALLATION OF AIR CONDITIONING AND REPAIR OF BLDG. S-106 in strict accord with specs. and dwgs.—Job—IFB 16-605-57-79B—Bid Opening 28 June 57.

Base Procurement Office, Harlingen Air Force Base, Texas. AIR CONDITIONING OF ACADEMIC CLASSROOMS—Job—IFB 41-644-57-60 B—Bid Opening 24 June 57.

Base Procurement Office, Pinecastle Air Force Base, Orlando, Fla. MODIFY AND AIR CONDITION IE FACILITY BLDG. 180, Pinecastle Air Force Base, Orlando, Fla.—Job—IFB 08-617-57-36—Bid Opening 25 June 57.

GENERAL SERVICES ADMINISTRATION

General Services Administration, Region 4, Business Service Center, 50 Seventh St., N.E., Atlanta 23, Ga.

AIR CONDITIONING JURY ROOM, Raleigh, N. C., Post Office and Court House—Job—IFB CR4-1675—Bid Opening 6-25-57.

General Services Administration, Region 5, 575 U. S. Courthouse, 219 S. Clark St., Chicago, Ill.

DRINKING WATER SYSTEM COOLER, Percy Jones Army Hospital, Bldg. No. 1, Battle Creek, Mich.—Job—IFB D&C 476—Bid Opening 6/24/57.

General Services Administration, Region 7, Business Service Center, 1114 Commerce, Dallas, Texas.

AIR CONDITIONING, U. S. Post Office & Court House, Dallas, Texas—Job—IFB CR71-406—Bid Opening 6-25-57.

General Services Administration, Region 5, 575 U. S. Courthouse, 219 S. Clark St., Chicago, Ill.

AIR CONDITIONING, LIGHTING, ALTERATIONS, ETC. south wing of fourth floor, U. S. Post Office and Courthouse (Old), Columbus, Ohio—Job—IFB D&C 617—Bid Opening 6-27-57.

PARTIAL INTERIM AIR CONDITIONING FOR COURTS, U. S. Court House, Chicago, Ill.—Job—IFB D&C 152—Bid Opening 6-25-57.

General Services Administration, Region 4, Business Service Center, 50 Seventh St., N.E., Atlanta 23, Ga.

AIR CONDITIONING GRAND JURY ROOM, Spartanburg, S. C., Post Office and Court House—Job—IFB CR4-1676—Bid Opening 7-3-57.

General Services Administration, Region 5, 575 U. S. Courthouse, 219 S. Clark St., Chicago, Ill.

ELECTRIC WATER COOLERS, Fed. Spec. 00-C-566c-99 ea.—IFB CHN-2531—Bid Opening 6/28/57—(Partial Set Aside for Small Business Concerns).

General Services Administration, Region 3, Business Service Center, 7th & D Sts., S.W., Washington 25, D. C.

The following items are procured under IFB R2D-85506-RR—Bid Opening 6-28-57.

CHILLED WATER SYSTEM, COOLING TOWER, 20 Ton Capacity, 1 ea.—PACKAGED WATER CHILLER, 1 ea.—PUMP FOR CHILLED WATER SERVICE, 1 ea.—PUMP FOR CONDENSING WATER SERVICE, 1 ea.—WATER STORAGE TANK, 1 ea.

General Services Administration, Region 10, Business Service Center, 909 1st Ave., Seattle 4, Wash.

HEATING & PLUMBING ALTERATIONS, Federal Office Bldg., Seattle, Wash.—Job—IFB SEA-759—Bid Opening 6-27-57.

VETERANS ADMINISTRATION

Director Design SVC Veterans Administration, Room 2707 Munitions Bldg., Washington 25, D. C.

CONVERSION OF COAL FIRED BOILER TO GAS FIRED, Spec. No. 5757, at Veterans Administration Hospital, Saginaw, Mich.—Job—IFB 21-5160—Bid Opening 7-16-57.

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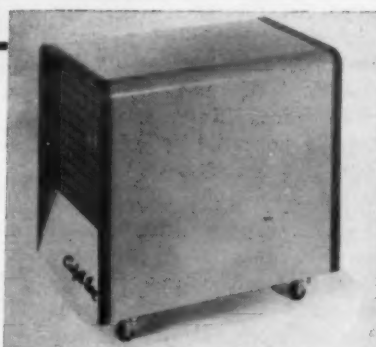
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AIR CONDITIONING & REFRIGERATION NEWS
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Dealers Chorus, 'Havin' a Heat Wave' --

(Concluded from preceding page)

a summer day, reduced the standard 120 volts to about 113 volts.

"This brought about an extra batch of service complaints along the lines of fuses blown out, units kicking out, in addition to the ones where something was really wrong with the system," reports A. G. Weil, head of Refrigeration Maintenance Corp., one of Chicago's largest service and installation firms.

Service Calls Tying Up Lines

Other dealers and contractors, reporting the same problem, said that the increased volume of service calls was tying up their telephone lines and serving to hamper sales efforts. And some dealers reported that they had "run out of labor" to make installations.

How much effect the hot spell had on sales of central residential and packaged commercial units was difficult to tell at this time. Chicago contractors stated, although they said that "all air conditioning business had picked up some." Another hot spell following close upon the first one might result in many decisions for sales, it was believed.

Packaged Unit Sales 'Behind'

Opinion varied on how sales of packaged units had gone up to the present date. Most dealers seemed to feel that they were "behind expectations," but a Midwest regional manager for one of the largest producers declared that retail sales of residential air conditioners in his territory were up 25% over 1956.

"Sales were good while the weather was hot, but they dropped right off when that first cool breeze came through," commented Thomas R. Craffey, sales manager of Good Housekeeping Shops, a large Detroit appliance chain.

"One night of torture is not enough," he chuckled. "What we need is about four straight hot nights. No amount of advertising, bird dogging, or promotion seems to do any good without hot weather."

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"The hot spell put us in a turmoil," asserted George Murphree of Refrigeration Maintenance, Inc., Detroit. "Our telephone rang constantly for two days straight. Since last Saturday, when the heat first came, we have been here until 8 p.m. every night handling calls."

"Right now we are about 200 calls behind. If we don't take another call, we might catch up by next Monday (this was on Wednesday)."

'Human Nature'

This was nothing new for Murphree. "It happens every year," he philosophized. "Before the heat wave, when we had plenty of time, we couldn't interest anyone in putting in air conditioning then. Now, they all want it in yesterday. It's just human nature, I guess."

Chester Alexander, advertising and sales promotion manager for George L. Johnston Co., General Electric distributor, noted that the effect of the heat wave was most noticeable in window type air conditioners. Commercial packaged equipment was less affected, though sales also perked up.

"The heat did wonders for us Monday and Tuesday," he said. "We put everyone we could on a phone taking orders. We stayed here until 8 p.m. processing them."

"We don't let any grass grow under our feet, because we know that you can get about 20% cancellations when the temperature drops if you don't ship the goods right away."

"Our operations man says that everything ordered so far will be moved out to dealers and customers by tomorrow."

'Sales Definitely Up To Expectations'

Sales during the first heat wave of the season "definitely" came up to expectations, a spokesman for Refrigeration Service, Inc., Frigidaire dealership in Detroit, declared.

"We ran a big ad on a particular window air conditioner model on Tuesday. Before noon, we had sold out on that model and had written up many other orders besides."

"Business is slightly behind last year so far," the spokesman said, "but if the heat continues, I am sure that we will do better than last year."

Even though he doesn't sell room air conditioners, York's Dean Worlein found that the heat wave gave a considerable spurt to commercial and residential air conditioning sales.

"We did as much business by noon Monday as we had done during the entire previous week," he declared. "It was divided about even between residential and commercial equipment."

"Even though a heat wave has to hold out for several days before we get the results of it in our end of the business, this first one of the season seems to have had a very stimulating effect on dealers. The immediate improvement was very, very noticeable."

"There was one advantage in the hot spell being so rather late in coming," said T. H. Mabley, of Mechanical Heat and Cold, Inc., Detroit, "and that

was in fact that dealers had become convinced that price-cutting was not the answer to selling packaged air conditioners—residential units in particular.

'Profit Picture Will Be Better'

"Even if sales of packaged units don't meet expectations—and they could, if we get some more hot weather—it looks as though the profit picture will be better."

In Cambridge, Mass., Harry Sussman, president of National Sales Corp., exclaimed: "And how, the air conditioning business has boomed with the heat wave." He added: "I've booked more than in any month last year."

From Ed Mizerany, president of Mizerany Appliance Co. in St. Louis, came the report that "We sold 20% more air conditioning units in the first three days of hot weather this year than we did in the first hot spell a year ago."

Kane Co. in Cleveland, a wholesale firm which reportedly had been selling dealers a total of five or ten air conditioners a week prior to the heat wave, expected its 500 to 600-unit inventory to be exhausted

by the end of last week—provided the hot weather continued.

This firm and also B & B Appliance Co. in the same city were quoted as stating that prices had been increased rather than reduced.

Room Units Top Appliance Sales, Utility Reports

A report from Carolina Power & Light Co., Raleigh, N. C., showed that air conditioners topped major appliances sales in May, rising 52% over the same month last year as all but two other categories experienced declines.

A total of 838 units were sold in May, compared with 551 in May a year ago. For the first five months of this year, sales of air conditioners totaled 2,107, an increase of 98% over the 1,066 units sold in the like period of 1956.

In Beaumont, Texas, Gulf Hardware Co. is offering free home trials to push sales of 1-ton packaged air conditioners. It was planning to stage an air conditioning sales marathon, with the store open "around the clock," and to promote the free

trial offer in newspaper advertising.

Jewel Maness, owner of the firm, says home trials answer all the questions in the minds of customers "confused" about ratings, cost of operation, benefits of air conditioning, etc. Reporting that the firm has already installed several units on a free-trial basis, he claimed none has had to be repossessed yet.

In New Orleans, where warm weather reportedly has given a substantial boost to air conditioner sales, some dealers said customers are showing more preference for 1½-ton units, with about 20% of them purchasing this size, and less interest in 7½-amp. models.

Copper Prices Slashed

NEW YORK CITY—As two of the three biggest U.S. copper producers lowered prices by 2¼ cents a pound to 29¼ cents, custom smelters immediately reduced their prices by a cent a pound to 29 cents to remain below the producers' quotation.

Phelps Dodge Corp., second largest copper producer, lead off the price cut to be quickly followed by the largest producer, Kennecott Copper Corp.

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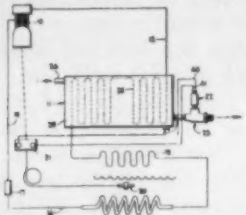
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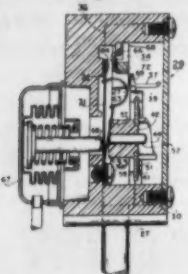
PATENTS Weeks of April 16 & 23

2,788,639. CONDENSER VALVE. Elroy J. Kraft, Des Plaines, Ill., assignor to The Dole Valve Co., Chicago, Ill.



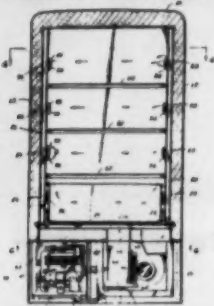
1. In a closed refrigerating system having a compressor, a condenser, a flow restrictor and cooling coils connected in a closed circuit, liquid cooling means for said condenser, and two thermostatic elements for controlling the head pressures of the compressor by controlling the flow of coolant along the other in accordance with cooling coil temperature and the other controlling the discharge of coolant in accordance with the temperature thereof.

2,788,640. CONTROL FOR REFRIGERATION APPARATUS. Meigs W. Newberry, South Windsor, Conn., assignor to Westinghouse Electric Corp.



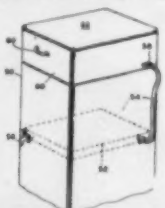
1. A control device comprising a switch movable between two positions, an operating member adapted for reciprocating movement between first and second positions and first and third positions, the movement of said member between its first and third positions being greater than the movement between first and second positions, means for counting the reciprocations of said operating member between its first and second positions and for actuating said switch from one position to its other position after said member has undergone a predetermined number of reciprocations between said positions.

2,788,641. FREEZING UNIT. Elbert W. Franklin and George Overton, Los Angeles, Calif., assignors to Freez-Aire Corp. of America, Los Angeles.



1. In a freezing unit including a cold storage chamber, a forced cold air circulating system for maintaining a substantially uniform temperature at all levels in the chamber comprising: a forced cold air refrigerating apparatus disposed at the lower end of the chamber; first and second vertical side walls having air passages therein communicating with the refrigerating apparatus; a partition dividing the air passage in the first wall into two vertical passages, each having openings communicating with the chamber interior, said second wall air passage having a series of vertically spaced openings communicating with the chamber interior; and means for passing cold air through said vertical passages.

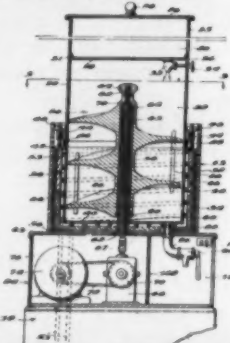
2,788,642. LIQUID COOLING MEANS. Bessie M. Burkhead and Joseph R. Burkhead, Harrodsburg, Ky.



A combination refrigerator shelf and liquid tank comprising a shallow flat tank having a flat rectangular shelf top and being of a size to fit within and be supported within a refrigerator having shelf supporting means therewithin, said tank having a fluid inlet, a fluid outlet disposed diagonally relative to said fluid inlet, and a series of baffles within said tank defining a tortuous fluid passage from said inlet to said outlet, said inlet being adapted

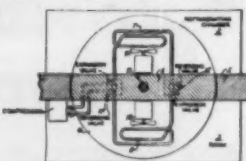
to have a separate fluid supply means connected thereto, said outlet being adapted to have a fluid discharge means connected thereto, separable, replaceable, fluid supply means comprising a fluid supply tank to be mounted on the refrigerator top, and conforming in configuration thereto, and a readily removable and replaceable conduit mounted externally of said refrigerator connecting said fluid supply tank to said shelf tank inlet.

2,788,643. VERTICAL FROZEN MILK MACHINE. Philip Martin, North Hollywood, Calif., assignor to Marcus Lipsky, Los Angeles, Calif.



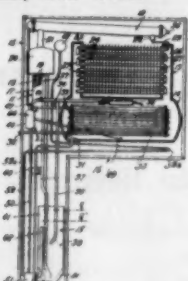
1. In a device of the character described, a substantially vertical freezer chamber having a lower tubular section and an upper tubular section, said sections being aligned and said upper section being supported on and separable from said lower section, covering means resting on said upper section, agitator means in said freezer chamber, refrigerating means surrounding the lower section of said freezing chamber, means for introducing a product to be frozen into said freezing chamber, and means for removing the frozen product from said chamber.

2,788,644. REFRIGERATING CHAMBER AND FREEZING BOX ARRANGEMENTS. Nils Gustafsson, Stockholm, Sweden, assignor to Kooperativa Forbundet Ekonomisk Forening, Stockholm, Sweden.



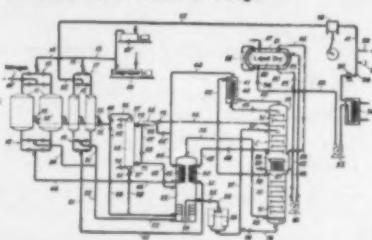
In a refrigerating apparatus having a first evaporator chamber, a second condenser chamber, a wall separating said chambers, and a compressor with pressure and suction sides: a movable section in said wall, rotatable to expose selectively either side thereof in either of said chambers, a tubular loop mounted on each side of said movable section to move therewith.

2,788,645. REFRIGERATION. John E. Krug, Evansville, Ind., assignor to Servel, Inc., New York.



1. In a vacuum type absorption refrigeration apparatus containing an absorption solution adapted to be circulated therein and in which hydrogen is apt to occur, a gas storage vessel, means for transferring hydrogen from the other parts of the gas storage vessel comprising a conduit, a cell connected to the gas storage vessel and having a palladium wall through which hydrogen diffuses to the ambient atmosphere, and said conduit being inclined upwardly throughout its length in the upright operating position of the apparatus.

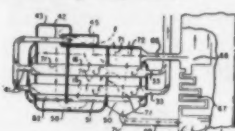
2,788,646. PROCESS OF AND APPARATUS FOR LOW-TEMPERATURE SEPARATION OF AIR. Philip K. Rice, White Plains, N. Y., assignor to Union Carbide and Carbon Corp.



1. In a process for supplying oxygen to a consumer system having a variable demand for same including periods of normal demand and of demand in excess of the normal and including the

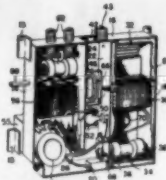
low-temperature separation of air by rectification in which air cooled and freed of moisture and carbon dioxide is subjected to low-temperature rectification to separate oxygen and nitrogen rich products, which products are used to cool further portions of air, the steps of providing a store of liquid comprising mainly oxygen; holding said store of liquid separate from the liquids involved in the rectification; during continuous rectifying operation, utilizing portions of said store of liquid to produce refrigeration for the rectification at a rate sufficient to provide the low-temperature refrigeration requirements of the air separation in excess of that gained by pretreatment of the air including said cooling of air by the products.

2,788,647. GASEOUS FLUID COOLING DEVICE. Frederick H. Green, Los Angeles, Calif., assignor to The Garrett Corp., Los Angeles, Calif.



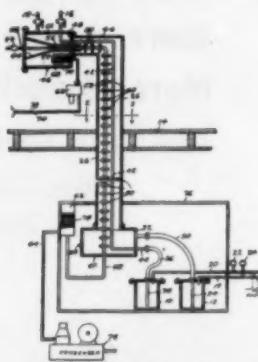
1. In a system for cooling air which is delivered to a space to be cooled from an air compressor of an aircraft which also has an air ram: a casing having therein a coolant passage for coolant air received from said ram; heat exchange duct means extending in said path of flow of coolant air, the upstream end of said duct means being arranged to receive compressed air from said air compressor; one or more vortex tube means extended in said casing in crossing relation to said path of flow of coolant air, said vortex means having plates thereon in said path of flow to form heat dissipating fins.

2,788,648. AIR CONDITIONED TELEPHONE BOOTH. Percival H. Sharron, Jamaica, N. Y.



1. In a telephone booth including two side panels, a rear panel, a front door and means for mounting a telephone in one rear corner of the booth; a compartmented ceiling structure comprising a pan and including a downwardly extending depression in the pan in the vicinity of said one corner of the booth and means forming two passages above the pan, a first of the passages containing an air blower and a refrigerated coil and having an inlet for air communicating with the interior of the booth and an outlet for air communicating with the interior of the booth, the blower circulating air from the inlet, through the passage and the refrigerated coil to the outlet, and the second passage containing a refrigerator compressor unit positioned in said depression, condenser coils and a blower.

2,788,649. COOLING AND SERVING SYSTEM. Charles E. Tunt, Bridgeport, Ohio.



1. A cooling system for cooling beverages during dispensing thereof comprising at least two beverage containers, and at least two nozzle means, a tubing for conveying one of the beverages and having means connecting it to the container for said beverage, one of said nozzle means being connected to the tubing to dispense the beverage therefrom, a conduit connected to said other container and extending concentrically within the tubing and connected to the other nozzle means, an evaporator tube extending concentrically in said tubing, a plurality of disc-like plastic spacers each having an axial bore extending through with said spacers being threaded on said evaporator tube in spaced relation.

2,788,652. REFRIGERATOR AND LATCH MECHANISM THEREFOR. Robert E. Johnson, Marne, Mich., assignor to Jervis Corp.

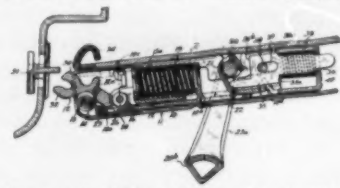
2. In a latch mechanism for mounting on a door, a bolt member movable between a keeper engaging position and a cocked position, a spring biased bolt actuator movable between a normal position corresponding to the keeper engaging position of said bolt member and an energized position cor-

Editor's Note: Patents described here have been selected from the "Official Gazette" of the United States Patent Office. They offer only a brief summary of each invention. In some instances only the first part of the digest is presented.

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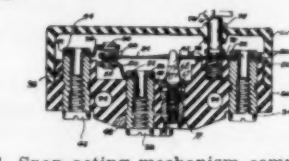
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responding to the cocked position of said bolt member, a ball shaped handle pivotable between a neutral position



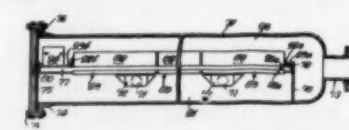
and an actuated position, the ball of said handle being located outwardly of said door and the ends thereof located inwardly of said bolt actuator.

2,788,173. SNAP ACTING MECHANISM. Oscar H. Kaminsky, Goshen, Ind., assignor to Penn Controls, Inc., Goshen, Ind.



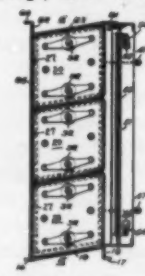
1. Snap acting mechanism comprising a leaf spring blade provided with a longitudinal slot terminating short of the ends thereof, means for anchoring one end of said blade leaving the other end free to be moved with a snap action, a pair of resilient elements pivotally engaging the side edges of said blade in the vicinity of the central portion of said slot, means for adjusting the spacing between said elements, and means for imparting movement to said blade intermediate its anchored end and said pair of resilient elements in opposite directions to cause the unanchored end thereof to move with snap action in opposite directions.

2,788,655. MAGNETIC DUST TRAPS OR FILTERS. Ralph A. Michael, Blue Island, James A. Newkirk, Aurora, and William E. Preston, Homewood, Ill.



5. A dust trap for gas distribution systems comprising a housing adapted to be disposed horizontally and having an inlet and outlet, horizontally aligned spaced supporting means in said housing extending longitudinally thereof between said inlet and said outlet, a plurality of non-magnetic tubes supported on and extending horizontally in spaced parallel relation between said means, a plurality of relatively short permanent magnets disposed in spaced relation in each of said tubes, a filter unit of the dry type supported by and extending between said tubes and said outlet in spaced parallel relation to said tubes.

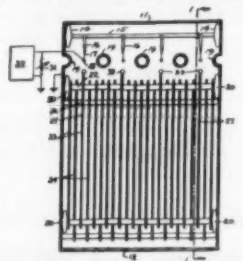
2,788,656. ELECTROSTATIC PRECIPITATORS. Earl L. Richardson, Hyde Park, Mass., assignor to Westinghouse Electric Corp., East Pittsburgh, Pa.



1. An electrostatic precipitator comprising a plurality of collector cells having open bottoms and tops and vertically extending, substantially diamond-shaped collector plates and end walls, said cells being stacked in a vertical row, and a frame having a bottom wall sloped at an angle to the horizontal on which the lower edges of

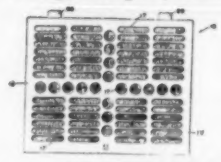
said end walls of the lowermost of said cells are supported, the lower edges of said plates of said lowermost cell extending substantially parallel to said bottom wall, said frame having a top wall extending substantially parallel to said bottom wall, the upper edges of said plates of the uppermost of said cells extending substantially parallel to said top wall.

2,788,657. ELECTROSTATIC PRECIPITATORS. Arnold C. Fields, Medfield, Mass., assignor to Westinghouse Electric Corp., East Pittsburgh, Pa.



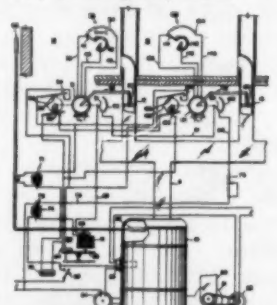
1. An electrostatic precipitator comprising an upstream ionizer wire, a plurality of parallel, spaced apart collector plates having upstream edges extending parallel to said wire downstream of same, alternate of said plates being grounded and others of said plates being insulated from ground, and a single voltage power pack connected to said wire and grounded plates only, a plurality of said other plates having upstream edges which extend closer to said wire than do the upstream edges of said grounded plates, said plurality of other plates being charged by the flow of ionization current between their upstream edges and said wire.

2,788,663. AIR FILTERING UNIT. John F. Camp, Memphis, Tenn.



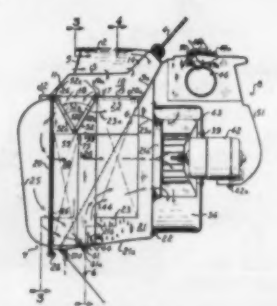
1. In an air filter, a pair of matching and oppositely disposed substantially flat plastic wings, a rigid backbone interposed between said wings and secured to said wings adjacent the lower edges thereof to form an open ended and open top casing having sides defined by said wings and a bottom defined by said backbone, a filter element removably mounted in said casing, said wings being cut out to form apertures for the passage of air through said wings and said filter element.

2,788,767. PLURAL ZONE TEMPERATURE CONTROL APPARATUS. Edward E. W. Martinson, Moundsview Township, Ramsey County, Minn., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.



1. In temperature control apparatus for controlling the temperature of a multizone dwelling; temperature changing means for changing the temperature of a medium; conduit means connecting said temperature changing means to each of said zones for delivering a quantity of temperature conditioned medium to said zones; flow control means associated with each of said conduit means for controlling the quantity of conditioned medium delivered to each of said zones; variable resistance means associated with each of said flow control means having a maximum resistance when said flow control means is wide open; switch means having a bellows type operator connected in closed fluid system with a plurality of remotely located bulbs.

2,788,794. AIR CONDITIONING SYSTEM. Meade F. Moore, Birmingham, and William Christensen, Detroit, Mich., assignors to American Motors Corp.



(Continued on next page)

PATENTS

(Continued from preceding page)

1. An air conditioning device for an automotive vehicle having a passenger compartment and an engine compartment comprising: a partition panel separating the engine compartment from the passenger compartment and having a large opening therein; an air reception compartment arranged adjacent the partition panel and having a first opening communicating with the atmosphere; a heat radiating core mounted adjacent the air reception compartment; a housing surrounding the heat radiating core and being spaced therefrom to provide a first passage ahead of said core, said housing being mounted within the panel opening.

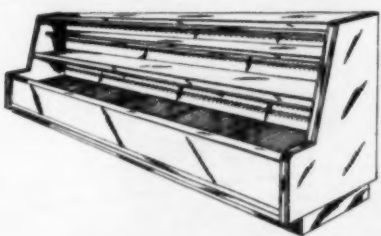
2,789,797. **HEAT EXCHANGER FIN STRUCTURE.** Clyde S. Simpelaar, Racine, Wis., assignor to Modine Mfg. Co., Racine, Wis.



1. In a fluid pass for heat exchangers, the combination of an elongated relatively thin fluid pass structure, and a plurality of elongated strip fins having their ends operatively connected to the opposite sides of the fluid pass structure in heat transfer relation therewith, the thickness of the respective fins being less than the width thereof in the direction of fluid flow through the pass structure.

DESIGNS

180,072. **REFRIGERATED DISPLAY CASE.** Edgar V. Dickson, Ladue, and Theodore E. Weber, Afton, Mo., assignors to Hussmann Refrigerator Co., St. Louis.



They Won't Be Home (Plant Vacation Schedule)

This is the second in a series of handy guides to vacation schedules announced by manufacturers, published to help salesmen avoid useless calls and to assure purchasing departments of adequate stock-on-hand. This list will not be repeated. CLIP and SAVE for future reference.

Starting JULY 15 or earlier

Company	Shutdown Period	Shipments From Plant
American Gas Machine Co.	6/29-7/8	None
American Air Filter Co., Inc.	6/29-7/14	6/29-7/14
Atlas Valve Co.	7/15-7/29	None
Barneby-Cheney Co., Inc.	7/1 -7/15	7/1-7/15
Barry Blower Co.	6/29-7/9	6/29-7/9
Bishop & Babcock Mfg. Co.	7/15-7/20	7/15-7/20
Chase Brass & Copper Co., Inc.	7/1 -7/15	None
Coldin Cabinet Co., Inc.	7/4 -7/15	None
Controls Corp. of America		
A-P Controls Div.	7/15-7/19	7/15-7/19
Soreng Div.	6/28-7/15	6/28-7/15
Davis Engineering Corp.	6/29-7/14	6/29-7/14
Davis Products Co.	6/28-7/12	6/28-7/12
Eddington Metal Specialty Co.	7/1 -7/7	None
Franklin Mfg. Co.	7/15-7/26	None
Freezing Equipment Sales, Inc.	7/1 -7/15	None
Frigid Igloo Mfg. Corp.	7/1 -7/8	7/1 -7/8
Gloekler Refrigerator Co.	6/29-7/7	6/29-7/7
Haydon Mfg. Co., Inc.		
Div. General Time Corp.	7/12-7/29	7/12-7/29
Jacks-Evans Mfg. Co.		
Controls Div.	6/24-7/7	6/24-7/7
Janitrol Heating & Air Conditioning Div.		
Surface Combustion Corp.	7/8 -7/19	7/8 -7/19
Keco Industries	6/24-7/6	6/24-7/6
Lindemann & Hoverson Co.	6/28-7/15	6/28-7/15
Manitowoc Equipment Works	7/4 -7/14	7/4 -7/14
Mechanical Industries		
Production Co.	7/1 -7/14	None
Nolin Mfg. Co., Inc.	6/28-7/8	6/28-7/8
Penn Boiler & Burner Mfg. Corp.	6/28-7/8	6/28-7/8
Revere Copper & Brass Co.	7/1 -7/14	7/1 -7/14
Simpson Electric Co.	6/29-7/15	6/29-7/15
Spence Engineering Co., Inc.	6/27-7/14	6/27-7/14
Supreme Metal Works Co.	6/29-7/7	6/29-7/7
Tork Time Controls Co.	7/1 -7/15	7/1 -7/15
Tube Manifold Corp.	6/29-7/14	6/29-7/14
U. S. Machine Div.		
Stewart-Warner Corp.	6/23-7/8	6/23-7/8
Waukesha Motor Co.	6/21-7/15	None
Whitlock Mfg. Co.	7/15-7/27	7/15-7/27
York-Shipley, Inc.	6/21-7/8	6/21-7/8

Utilities Men Discuss Heat Pump Cooling

MOBILE, Ala.—Ninety representatives of electric utilities in eastern and southeastern states engaged in three days of conferences here on the use of the heat pump in air conditioning.

Committees from the Edison Electric Institute and the Southeastern Electric Exchange met.

Speakers at the first session of joint meetings were Sabert Oglesby of the Southern Research Institute, Birmingham; Frank M. Flanagan, University of Florida; Gilbert Leach, Tampa Electric Co., Tampa, Fla.; and B. D. Painter, Appalachian Electric Power Co., Roanoke, Va.

At an afternoon session the speakers were E. R. Ambrose of American Gas & Electric Service Corp., New York City, chairman of the Edison Electric Institute committee, and Guy C. Hall of Florida Power Corp., St. Petersburg, vice chairman of the Southeastern Electric Exchange committee.

C. W. Cheatham of Alabama Power Co., chairman of the Heat Pump Steering Committee for the SEE, introduced speakers from five heat pump makers.

Representatives of the heat pump manufacturers included H. M. Brundage, Weathertron Dept. of General Electric Co.; Ralph Stebbins of Westinghouse Electric Corp.; George F. Robinson of Carrier Corp.; William M. Boland of Typhoon Heat Pump Co.; and Curtis Mathes, Jr. of the Mathes Co.

Men on the Move...

Furnas Electric Co. (Batavia, Ill.)—E. R. WILSON was appointed executive vice president and general manager. W. S. LISMAN was made sales and engineering vice president. G. R. NARY became works manager for this electric motor control manufacturing firm.

Pennsalt Chemicals Corp.—GEORGE T. COLLINS has been named president of Pennsalt International Corp., wholly-owned subsidiary of this chemical company.

Fairbanks, Morse & Co. (Chicago)—Reassignment of three vice presidents and a plant manager and promotion of four other executives was announced. ROBERT H. MORSE III has been reassigned from vice president-sales to vice president-budgets and planning; V. H. PETERSON from vice president-engineering to vice president-sales; and JOHN A. CUNEO from vice president and assistant to the president to vice president-foreign operations.

JOHN C. ELMBURG, assistant general sales manager, was upped to general sales manager and G. R. ANDERSON, SR., manager of the Kansas City (Kan.) works to chief engineer.

C. E. CLAUSEN, manager of the St. Johnsbury, Vt. works was named Kansas City manager; H. M. GOODCHILD, chief engineer at St. Johnsbury, was promoted to works manager; and G. R. ANDERSON, JR. was named chief engineer there.

Tranter Mfg., Inc. (Lansing, Mich.)—Appointment of ROBERT W. SAXTON as assistant general sales manager has been announced. He will direct and coordinate all inside sales activity and assist in direction of outside sales. He formerly was contract division sales chief.

Trane Co.—ROBERT P. MARSHALL, a 20-year veteran in the air conditioning industry, has been named factory superintendent of the new plant to be erected in Clarksville, Tenn. DAVID E. WASHBURN, formerly sales manager with a distributor, has been appointed packaged equipment sales engineer for the firm. ROBERT J. DORAN, previously a distributor sales representative, was also named a packaged equipment sales engineer.

Revco, Inc. (Deerfield, Mich.)—JAMES R. JENKINS has been appointed advertising manager, a move up from assistant.

Sweden Freezer Mfg. Co. (Seattle)—Promotion of JOHN T. MATTHEW to assistant domestic sales manager from central regional manager has been announced. IRVIN H. MILLER, formerly a home office sales department employee, has been named special accounts manager.

Manitowoc Equipment Works (Manitowoc, Wis.)—ROBERT N. YORK, formerly southeastern regional manager for the firm, has been appointed merchandising manager.

Minneapolis-Honeywell Regulator Co.—D. H. HANNASCH, district sales manager in Greensboro, has

been named manager of the branch sales office in Charlotte, N. C. to succeed L. FRANK LAWRENCE, JR., transferred to Cocoa Beach, Fla.

Barton Distributing Co. (Indianapolis)—JERRELL A. CASSADY, previously refrigeration manager for Thermal Co., Inc., St. Paul, has been named sales manager for this Worthington distributor.

Admiral Corp.—WILLIAM F. PRENTICE has been appointed a regional manager and will cover distributors in Davenport and Des Moines, Iowa; Omaha, Neb.; and Peoria, Ill. He formerly served with General Electric, Westinghouse, and Crosley.

American Potash & Chemical Corp.—GEORGE W. SCHNIER, previously sales manager of the Refrigeration Chemicals Dept., has been named to head the newly-formed chemical fuels section of the firm.

Emerson Electric Mfg. Co.—ALBERT C. DICKSON, chief engineer of the Electrical Div., has been promoted to assistant to the vice president-engineering and research. He will be in charge of electrical engineering. WILLIAM H. THIAS, assistant manager of motor sales, has been appointed acting chief engineer of the Electrical Div. to succeed Dickson.

A. M. Byers Co. (Pittsburgh)—CHARLES P. HAMMOND, former-

ly general superintendent of mills for Northeastern Steel Corp., has been appointed assistant to the vice president-operations. FRANK W. STOKES, previously with a construction firm, has been assigned as field service engineer in the Atlanta division office. He will cover Florida.

Maytag Co. (Newton, Iowa)—CLAIRE G. ELY has been elected vice president-marketing to succeed ROY A. BRADT, who retires Sept. 1. Ely has been general sales manager. JAMES B. BATES, field sales assistant in the Richmond, Va. branch, has been named a regional sales manager there. JOHN McDERMOTT has been named president of the newly-organized Maytag-Detroit Co., a wholly-owned subsidiary set up to distribute Maytag products in the eight-county southeast Michigan area. The firm replaces Maytag Central Co.

Lewin-Mathes Co.—Appointments of BILL HERLIHY, formerly of the New York City office, as Tampa, Fla. manager, FRED BRATT to rod and tube sales in Detroit, AL DENNISON as manager of brass rod sales in the New York City office, and DICK LOWREY as Dallas office manager have been announced.

Phelps Dodge Copper Products Corp.—RICHARD I. WILSON has been appointed Philadelphia district manager and will be responsible for all sales of the fabricating company in this area. He has been with the Philadelphia Electric Co.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$7.50 per insertion. Limit 50 words. 15¢ per word over 50.

RATES for all other classifications \$10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other address by actual word count. Please send payment with order.

POSITIONS WANTED

EMPLOYED SALES management executive interested in position with reputable well established manufacturer of air conditioning, commercial and industrial refrigeration as well as wet heat and dry heating equipment. Prime experiences and abilities, influencing and getting along with people, heavy product application engineering, establishment and sales development of distributors and major accounts, product promotion, sales personnel employment and training. Will relocate and consider foreign service. Family man, age 38, reason for desiring change in business associations, future limited with present corporation, income and future must be commensurate to ability. Reply BOX A5816, Air Conditioning & Refrigeration News.

SERVICE MANAGER and installation foreman will relocate in southeastern states. Fully experienced in handling installations through 250 ton capacity, with a minimum of engineering assistance. Have a splendid record with past employers. Would prefer a telephone conversation prior to negotiations. If interested write BOX A5817, Air Conditioning & Refrigeration News.

AIR CONDITIONING & Refrigeration Engineer-Executive, P. E., wants to retire from the management of his business after 18 years. Now is interested in part-time or temporary assignment on West Coast, South America or abroad. Speaks English, German and limited Spanish, Italian and French. Thoroughly understands the principle of order and its application. BOX A5818, Air Conditioning & Refrigeration News.

EASTERN PENNSYLVANIA, Maryland, and Washington area—Field sales representative, engineering degree, 12 years' successful experience in establishing and promoting volume distribution among distributors and dealers in the window and residential air conditioning field; seeks a challenging opportunity as representative or salary and incentive basis. BOX A5819, Air Conditioning & Refrigeration News.

EXPERIENCED AIR conditioning and heating man available. 15 years' experience in service and installation. 5 years as job superintendent on large installations. Can handle all trades involved. Available July 1st. Will go any-

where. Am free to travel. Best of references. Write BOX A5820, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

MANUFACTURER'S REPRESENTATIVE to sell what we sincerely believe to be the finest walk-in cooler and freezer on the market today. Also complete line of top quality commercial refrigeration. Active sales promotion program. Protected territory available. THE C. SCHMIDT COMPANY, 1712 John Street, Cincinnati 14, Ohio.

CHICAGO TERRITORY open for right district man who knows supermarket business. We already have dealer organization and hundreds of installations. Salary and expenses plus incentive bonus. Send complete information about yourself to BOX A5805, Air Conditioning & Refrigeration News.

PRICE CLERK—Excellent opportunity new business for man with heavy experience as wholesale price clerk or contractor estimator in refrigeration and air conditioning. Must be familiar with lists and discounts of all brands. Location Los Angeles. Age to 60. Reply with detailed resume. Replies confidential. BOX A5812, Air Conditioning & Refrigeration News.

REFRIGERATION MECHANIC — Middle aged man. Must be thoroughly experienced on all types ammonia machines and equipment. Must be willing to locate in Baltimore-Washington territory. Give experience and complete details in letter of application. Apply BOX A5821, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

NEW UNUSED 40 h.p. condensing unit less condenser. Consists of Schnacke E-1 compressor, Fairbanks-Morse 40 h.p. motor (220-440/50-60/3), drive, base and valves. Special price: \$800.00 FOB, Detroit. Available for inspection. KELVINATOR EXPORT DIVISION, AMERICAN MOTORS, 14250 Plymouth Road, Detroit 26, Michigan. Webster 3-8200, Extension 541.

NATIONALLY-FAMOUS brand-new condensing units at sensationally low prices. 1/4 h.p. only \$34.50. Other sizes up to 1/2 h.p. at equally great savings. Also tremendous values in motor compressor domes. 1/4 hp only \$31.00. Complete selection of sizes up to 1 1/2 h.p. All units fully guaranteed. Write for complete description and price list. MANN REFRIGERATION SUPPLY CO., 440 Lafayette Street, New York 3, N. Y. GRamercy 3-8000.

MISCELLANEOUS

ATTENTION SERVICEMEN: Send for free circulars and bulletins on refrigeration parts and equipment. Real money saving values: WALTER W. STARR, 2833 Lincoln Avenue, Chicago 18, Illinois.

AT YOUR WHOLESALE KESCO AUTOMATIC CONDENSATE WATER DISPOSAL PUMPS MODELS FOR ALL AIR CONDITIONERS ICE CUBE BINS DRINKING FOUNTAINS Mfg. & Guaranteed by Kesco Products EST. 1944 P.O. Box 84 SPRINGFIELD GARDENS 13, N. Y.



For more information about products advertised on this page use Information Center, page 26.

B.t.u.h. Ratings--

(Concluded from Page 1, Col. 2) fication sheets and other consumer literature, it was stated. All 25 have provided ARI with the ratings with authorization to publish them and make them available to the trade press, the industry, and other inquirers.

The ratings are being prepared by ARI in printed form for ready availability in replying to queries.

In publishing the list, Jones pointed out that it would be the final list to be issued by ARI this year of participating companies. At the May meeting of the Room Air-Conditioner Section set a deadline of June 1 for publication of ratings, either in literature or by making them available to ARI for publication. The list now being printed covers ratings published up to the deadline.

All manufacturers have stated that the published ratings were arrived at under the testing and rating procedure prescribed in ARI Standard 110-56 for room air conditioners.

Several of the companies whose ratings were listed in previous lists have filed ratings on additional models, and several others have revised the ratings as originally filed.

Capacity ratings of Fedders-Quigan Corp. and Olympic Radio & Television room air conditioners in B.t.u. per hour in accordance with ARI Standard 110-56 were listed as follows:

FEDDERS

Model	Nominal Hp.	B.t.u./hr. Capacity In Accordance w/ARI 110-56
79 DS	3/4	6,000
79 CS	3/4	7,000
79 D	3/4	7,800
711 DS	1	8,500
711 DSA	1	8,500
711 DSH	1	8,500
711 CS	1	9,100
711 CSE	1	9,100
711 D	1	9,700
711 C	1	9,700
711 CH	1	9,700
712 C	1	10,600
716 D	1 1/2	12,800
716 C	1 1/2	12,800
720 CB	2	15,600
720 C	2	16,000
720T	2	16,000
76 CW	3/4	5,000
79 CW	3/4	7,800
79 AW	3/4	6,000
711 AW-2	1	8,500
711 AW-3; 5	1	9,700
711 BW-2	1	9,000
711 BW-3; 5	1	9,700
712 S	1	9,000
716 BW	1 1/2	12,800
720 BT	2	15,600

OLYMPIC

OW775D	3/4	6,200
OW7100D	1	8,200
OW7200D	2	16,000
OT785C	3/4	6,200
OT7110C	1	8,200

Kelvinator Re-Rates '57 Room Unit Models

DETROIT—Increased capacities for all 1957 Kelvinator room air conditioners, based on recently completed tests of production models, have been announced by William G. Kronauge, sales planning manager for room air conditioners.

"Our 1957 models were rated from tests made on handmade samples, so that we could prepare specification sheets and sales promotion materials for the introduction of new room coolers in October of last year," Kronauge said.

"Production units have developed more capacity than our pre-production samples indicated. The capacity changes are in conformance with the rating

and testing procedures prescribed in ARI Standards 110-56," he said.

The old and new ratings for the entire line are:

Model	Original Rating	Revised Actual Capacity
78 C	6,560	6,700
78 RS	6,775	6,900
101 R	8,230	8,900
108 RS	8,195	8,700
108 R	9,340	9,700
158 R	11,550	12,100
209 R	15,540	16,300
109 WS	8,535	8,800
109 W	10,040	10,300
159 W	12,380	13,500

J. D. Nall Dies at 51

MIAMI, Fla.—James D. Nall, 51, of 4561 E. 8th Court, Hialeah, owner of the J. D. Nall Co., refrigeration service firm, died June 15.

Nall, who came here 21 years ago from Frankfort, Ind., was a past president of the International Refrigeration Service Engineering Society.

He is survived by his wife, Louise, and four children.

Cooling Off: Theaters, Models--

(Concluded from Page 1, Col. 4) similar plea for air conditioning, but the freeholders took no action on it. His request this time met the same fate.

A White Plains, N. Y. department store has put its enormous supply of wastepaper to good use as fuel for its 700-ton air conditioning system, with a saving in fuel costs since the four-story store opened last November estimated at upwards of \$2,000.

The waste supplies 30% of the total steam required during peak operation of the cooling system. The balance is provided by an automatic oil burning unit. During spring and fall, when the system is run at 30% capacity the waste provides all the steam required.

Contract has been let for construction of a 1,012-seat air conditioned theater, costing \$370,161, to be built at the Marine Corps Recruit Depot, Parris Island, S. C.

George Coster, enterprising Raleigh, N. C., salesman, recently made a little accommodation pay off. As a result, he sold a washing machine, a portable television, and six air conditioners, all to one customer.

Coster was doing free washing in a machine mounted on a trailer during Brooks Appliance Co.'s "Washerama" campaign. A lady remarked, "If you think I'm going to get up there on that trailer in this hot sun to see how the washing machine operates, I'm not interested."

Coster countered: "Lady, our office is air conditioned and I'll be glad to pick you up at your house tomorrow morning and

let you take your wash to the store to be done in an air conditioned building." She agreed.

"Not only did she like the washing machine and buy it," said William Brooks, president of the firm, "but she bought three air conditioners for her own home, two for a relative, and one for her mother, along with a portable television, while she was browsing around the store when her laundry was being done."

A one-day "strike" starring gorgeous models in beach attire on the picket line was a very effective promotional scheme used recently by George Brucker & Co., Philadelphia RCA Whirlpool dealer.

The girls carried signs bearing the message: "On strike against hot weather . . . we're buying RCA Whirlpool air conditioners from George Brucker."

ONE PACKAGE

Pre-engineered

AIR CONDITIONING SYSTEM

THE DUNHAM-BUSH

'CPU' COMMERCIAL

PACKAGE UNIT

This pre-engineered Dunham-Bush unit is a complete air conditioning system housed in one cabinet. Each unit is *entirely self-contained* . . . with evaporator, compressor, evaporative condenser and pump, fans, motors, piping and controls . . . all *pre-engineered* to provide peak operating performance at minimum operating cost. Installation requires only connection of power supply to control panel, connection of water make-up line and necessary duct connections. All units are run in and tested before shipment and are shipped with a holding charge of Freon.

The Dunham-Bush 'CPU' unit features patented high efficiency Inner-Fin® cooling coils; slow speed compressors specially selected for quiet operation; and forced-draft, blow-through type Inner-Fin evaporative condenser. Available in 10, 15, 20, 30 and 40 Ton models.

Get complete details today. Contact the Dunham-Bush Sales Engineer in your area or write for 'CPU' catalog.

Dunham-Bush, Inc.

WEST HARTFORD 10 • CONNECTICUT • U. S. A.

MICHIGAN CITY, INDIANA • MARSHALLTOWN, IOWA • RIVERSIDE, CALIFORNIA • UTICA, NEW YORK

SUBSIDIARIES

heat-x HEAT-X, INC. BROWSTER, N.Y.

DUNHAM-BUSH

DUNHAM-BUSH (CANADA), LTD. TORONTO, CANADA

BRUNNER

THE BRUNNER CO. GAINESVILLE, GA.

DUNHAM-BUSH

DUNHAM-BUSH, LTD. LONDON, ENGLAND